



TAHOE
REGIONAL
PLANNING
AGENCY



Tahoe Transportation
DISTRICT



SR-89 Corridor Management Plan

September 2020



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EXECUTIVE SUMMARY

PRESERVING AN ICON BY INCREASING TRAVEL CHOICES

State Route (SR) 89, a two-lane mountain roadway, is the only access route to many of Lake Tahoe's popular recreation areas and serves an average of 1.8 million visitors annually (per the Linking Tahoe Corridor Connection Plan). The highway traverses 17.5 miles of Lake Tahoe's spectacular southern and western shoreline. Among its many natural, cultural, and recreational resources, it is home to Emerald Bay, one of California's 36 National Natural Landmark sites. Renowned for its spectacular beauty, Emerald Bay is one of Lake Tahoe's most popular and photographed locations. The vantage point from viewpoints such as Inspiration Point and Vikingsholm offer views of the bay and the expansive lake beyond.

The variety of natural and cultural resources abound in the corridor, making it the jewel of Lake Tahoe. A special place to be and an important place to protect so it is not loved to death.

CORRIDOR DISTINCTION

In addition to the iconic destination of Emerald Bay, the variety of corridor recreation options makes this corridor distinct. These natural resources and related public access brings a mix of short visit stops, longer day use activities, and overnight backcountry stays. Following are just a few notable items:

- Emerald Bay is one of California's 36 National Natural Landmark sites
- The longest stretch of easily accessible, large sandy public beaches, such as Pope Beach and Baldwin Beach
- The most public campground spaces in the Tahoe basin
- Portals into the backcountry and Desolation Wilderness, the most visited wilderness in the nation
- Significant winter and off-season visitation
- Mix of public lands and private concessionaires
- Washoe traditional and cultural sites

Plan Need

The corridor is one of the most visited and most popular within the Tahoe Region. Visitor demand during peak season (Memorial Day through Labor Day) exceeds infrastructure and staffing/operational capacity at recreation destinations. During the winter, parking areas are closed forcing visitors to park along the roadside to access backcountry skiing and to site-see. Avalanche risks prompt road closures through Emerald Bay, restricting access for emergencies, evacuation, recreation, and commutes. The lack of infrastructure, operational and enforcement strategies, and resources to address the high visitation levels results in negative impacts to visitor travel experience, environment, cultural resources, lake clarity, safety, congestion and quality of life.

The Linking Tahoe: Corridor Connection Plan (LTCCP) states that the "single biggest transportation issue associated with the SR 89 Recreation Corridor is addressing the congestion and parking issues through Camp Richardson and Emerald Bay."



average of
1,800,000
annual visitors

up to a **30 minute**
delay

KEY TAKEAWAYS FROM RESEARCH AND 2018 DATA COLLECTION

Key takeaways related to the SR 89 corridor from the Linking Tahoe: Corridor Connection Plan and 2018 data collection include the following:

- With 1.6 million annual vehicle trips or 4.9 million person trips made to the Inspiration Point/Emerald Bay area in 2014, it is the most popular attraction in the corridor and possibly the Lake Tahoe Basin.
- Congestion and parking issues through Camp Richardson and Emerald Bay are the biggest transportation issues. Over 500 vehicles parked along the highway near Emerald Bay on a peak summer day. Motorists searching for parking and queues to enter recreation areas are primary drivers of congestion during the summer.
- The highway runs through the middle of two major recreation areas at Camp Richardson and Emerald Bay with high volumes of vehicles, bicycles, and pedestrians creating congestion and safety issues.
- Narrow roadways and minimal shoulders are not conducive for bike and pedestrian use.
- There are no bike and pedestrian facilities north of Camp Richardson and LTBMU beaches.
- There is limited parking at Emerald Bay/Eagle Falls, scenic overlooks, and other trailhead locations.
- The last year transit serviced the corridor was in 2018 and cars often illegally parked in bus stops.
- The corridor hosts a diverse array of recreation activities. Length of stay ranges from a quick photo-opp to a weeks-long overnight backcountry trip. There is significant need for recreation access throughout the year, particularly for winter backcountry access.
- Daily summer traffic volumes are highest at the south end of the corridor with 26,000 vehicles per day near the U.S. Highway 50/South Tahoe “Y” intersection and lowest at the north end of the corridor with 5,900 vehicles per day at Tahoma in 2016.
- Traffic congestion in 2018 caused an estimated average of 12 minutes of delay and a maximum delay of 30 minutes.
- There was an average of 29 reported crashes per year between 2013-2017, 11 resulted in injuries.

Plan Purpose

The State Route Highway 89 (SR 89) Recreation Corridor Management Plan (CMP) sets forth a vision and coordinated set of goals for land managers to work toward. The document sets the stage for why change is needed, summarizes recommended strategies to collaboratively manage the corridor, and includes a series of phased projects to achieve the vision of shifting the way people arrive to their recreation destinations from being auto-dominated to more transit and multi-modal focused.

The SR 89 Recreation Corridor Management Plan is an umbrella document for other plans and projects within the corridor. It creates a central vision and is a mechanism through which land managers can work together to achieve common goals.

Goals

Following is a summary of the six goals established for the corridor. These goals were also used to evaluate alternatives and concepts.

Provide a Quality Travel Experience for All.

Create a variety of easy, flexible, and enjoyable ways for visitors and residents to plan for, arrive to, experience, and depart the corridor and recreation sites. Recognize that visitors refers to anyone (both local and non-local) recreating in the corridor.

Improve the Environment. Enhance the multi-modal transportation system and implement roadway improvements to manage congestion, reduce VMT and greenhouse gas (GHG) emissions, improve the clarity of Lake Tahoe, protect cultural resources, and enhance wildlife connectivity.

Advance Safety. Enhance facilities and utilize management strategies that reduce the potential for traffic incidents and enhance emergency access and evacuation routes.

Create Comfortable, Connected, and Convenient Transit and Trail Systems. Expand and manage the multi-modal transportation system to effectively improve access for all users to manage congestion, encourage walking and biking, and provide transit options.

Fund the Vision. Secure sustainable funding to build, operate, maintain, and renew a multi-modal transportation system that transforms the vision from concept to reality.

Set the Stage for Implementation, Maintenance, and Operations. Develop and identify the foundational roles and responsibilities, policies, and agreements needed to execute strategies and adaptively manage the corridor today and into the future.

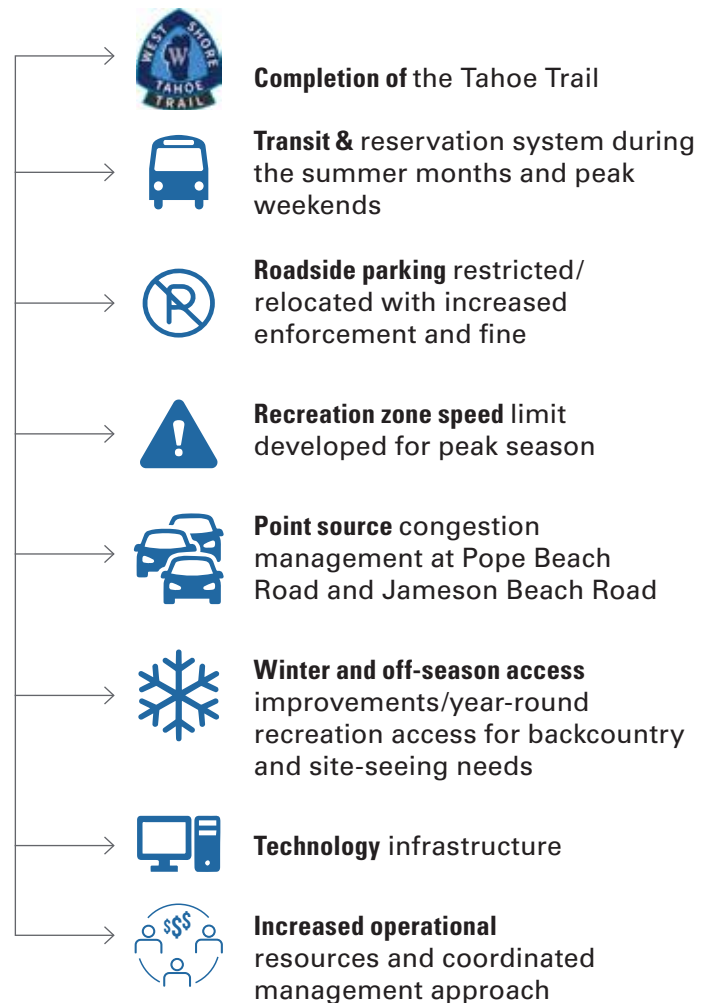
Toolkit Recommendations to Address Issues

Resource, recreation, and operational issues face the corridor. The issues are interrelated and the strategies available to address them are also connected. The CMP recommends an integrated approach for projects and operational strategies. Tools are used in coordination with one another to maximize their benefit or effectiveness. Results should be monitored and strategies adjusted to achieve a more managed and car-free experience where the impacts of visitor use are reduced.

Corridor Recommendations



Interconnected set of management tools are used in tandem to achieve a consistent set of recommendations throughout the recreation corridor.



Connecting Strategies with Issues

Shared challenges related to recreation access were organized into a set of 28 key issues (listed to the right). Recommended strategies to address the challenges were identified and a summary of action steps, metrics, potential project leads and partners, and a list of how the strategies relate to other recommendations was provided. The correlated list of issues and strategies is also found as a table in the appendix.



The Pope/Baldwin Bike Path is highly used for both recreation access and as recreation in and of itself.

List of Key Issues Addressed in the Plan

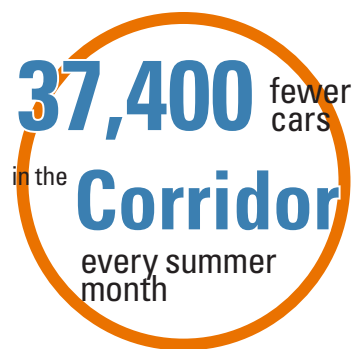
- Item 1 | Gap in Tahoe Trail
- Item 2 | Pedestrians in Highway
- Item 3 | Lack of Consistent Transit Service
- Item 4 | Bus Stops & Turnarounds Needed in Emerald Bay
- Item 5 | Motorists Congest Roads when Searching for Parking
- Item 6 | Visitation Surge Occurs at Peak Times
- Item 7 | Overnight Users Need Access
- Item 8 | Parking Lots Closed in Winter
- Item 9 | Emerald Bay Road Design Restricts Transit
- Item 10 | Lack of Year-Round Access Through Emerald Bay
- Item 11 | Limited Areas for Emergency Response
- Item 12 | High Traffic Speeds Near High Volumes of Pedestrians
- Item 13 | Limited Operations Budgets
- Item 14 | Lack of Piers and Operations to Support Water Taxi Service
- Item 15 | Lack of Technology Infrastructure
- Item 16 | Traffic Congestion at Pope Beach Road and at Eagle's Nest Campground
- Item 17 | Traffic Congestion at Jameson Beach Road
- Item 18 | Visitation is not Dispersed
- Item 19 | Pope to Baldwin Bike Path Bike Path has High Use Volumes
- Item 20 | Lack of Recreation Gateway, Visitor Info, & Consistent Wayfinding
- Item 21 | Events Can Impact Congestion
- Item 22 | Roadway is a Barrier for Wildlife Movement
- Item 23 | Overhead Powerlines Create a Fire Risk
- Item 24 | Roadside Parking Degrades Effectiveness of Stormwater Features
- Item 25 | Vikingsholm Parking Needs Repairs
- Item 26 | Implementation is Tough and Needs Partnerships and Executive Buy-in
- Item 27 | Lack of Public/Private Partnerships
- Item 28 | Climate Change

TRAVEL FRAMEWORK ANALYSIS AND RECOMMENDATION

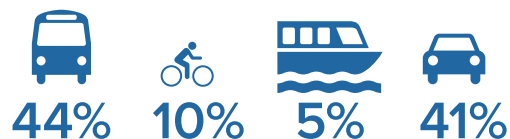
To develop a recommended transit framework a travel analysis was completed that factored in visitation patterns, operational feasibility, and other considerations. The outcomes revealed the need to use not only shuttle and bicycle operations and facilities, but also services, such as water taxis and a parking and transit reservation system, to disperse visitation throughout the day. To be fiscally achievable, revenue from the corridor parking management system needs to be allowed to be reinvested into operations and maintenance of the corridor and its transportation system.

Overall, the new system significantly reduces the number of cars driving within the corridor every month. Significant elements of the framework include the following:

- Completing the Tahoe Trail
- Establishing a predictable and sustainable funding source to pay for the parking management system and subsidize the transit, parking, and trails operations and maintenance
- Using a reservation system along with congestion pricing for transit and parking areas to disperse arrival and departure times throughout the day
- Creating an exciting marketing and branding program to encourage transit use and conducting follow-up surveys to adjust the program as needed
- Intercepting visitors at both the southern and northern ends of the corridor to allow for short shuttle runs to make more roundtrips with fewer buses while connecting the transit system to the mainline transit services operating in the South Shore and North Shore to encourage park-once strategies that allow visitors to reach Emerald Bay without ever using a car
- Restricting/relocating roadside parking, increasing enforcement, and significantly increasing fines
- Allowing thru traffic
- Addressing congestion issues in the Pope to Baldwin Segment
- Adaptively managing the corridor over time
- Conducting a regional recreation visitation study
- Coordinating projects to maximize funding options and benefits
- Establishing a Corridor Management Team and an Executive Team to cooperatively implement the plan



How People Arrive to the Corridor in the Summer¹



Tahoe Trail
Completed



Thru Traffic
Allowed



Roadside Parking
Relocated

Transit Service

Bus Routes

- Y to Emerald Bay every 15 minutes
- Sugar Pine Point State Park to Emerald Bay every 15 minutes
- Coordinate transit routes to connect with main line transit systems from South Lake Tahoe and from North Lake Tahoe

Water Taxi Routes

- South Shore: 2 boats running hourly from 10:30-6:30 (from Camp Richardson to Emerald Bay)
- North Shore: 1 boat running every 2 hours from 10:30-6:30 (from Homewood or Sugar Pine Point State Park to Emerald Bay)

MANAGING VISITATION

The CMP establishes a travel framework based on the 2018 visitation. The system could accommodate a modest future increase of 5 percent. Increased recreation demand needs to be addressed at a regional level. Transit, trails, and parking management programs provide tools to shift use patterns to reduce impacts and to monitor and control demands as appropriate. The system can also scale up or down to meet desired management levels.

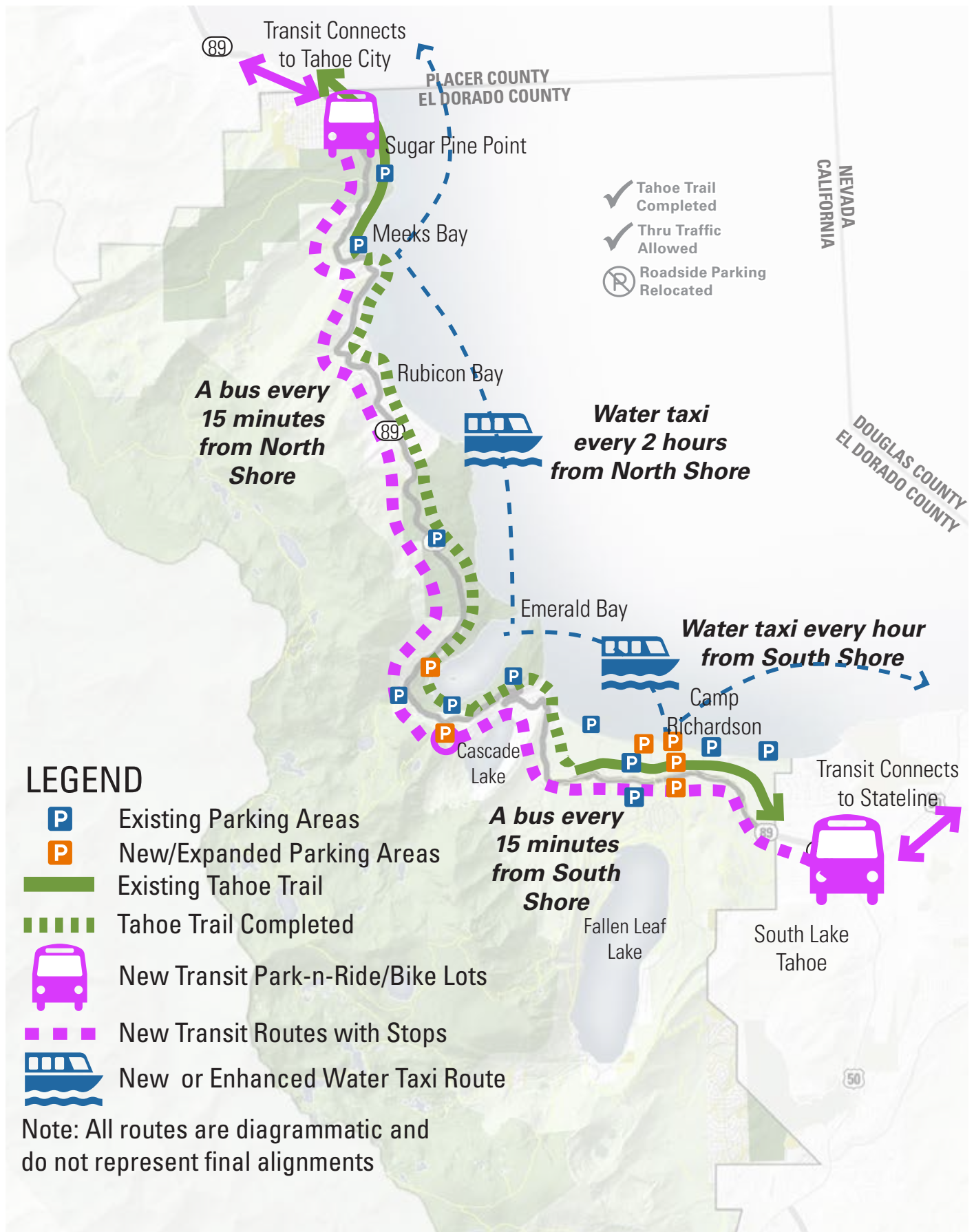


Figure 1: Recommended Travel Framework

Phasing and Implementation

The travel framework is recommended to be implemented in three phases. Infrastructure and operational projects are required to support each phase. Phasing considers those projects that represent quick wins, efforts that are already funded or have environmental documentation completed, and strategies that must be set in place as a foundation for other projects to build from. As project funding becomes available, some projects may move up in phasing.

Implementation of CMP recommendations requires continued collaboration to address challenges, seek solutions, and have project champions to usher projects forward. A Corridor Management Team will work together to provide a coordinated approach to maintenance and operations.

The SR 89 Recreation Corridor crosses state and federal lands and has multiple organization operating within it, making management challenging. No single agency can address the many issues that are a by-product of roadside parking. As experienced with the SR 28 corridor, a corridor champion, executive team, and a management structure is needed to bring parties together to resolve shared issues.

Phase I Key Projects

- Conduct the Tahoe Trail feasibility study
- Develop a funding/financing plan with phase improvements
- Improve the Vikingsholm and Eagle Falls parking lots, develop transit stops, and link facilities with the Tahoe Trail from the vista lookout past the Vikingsholm parking lot
- Address congestion at Pope Beach Road and Jameson Beach Road
- Construct shared use paths along Jameson Beach Road, Baldwin Beach Road, and Pope Beach Road
- Develop a marketing and branding program for the travel framework
- Develop a reservation system for transit and parking management
- Develop turnarounds for emergency and transit vehicles
- Conceptual route for a north/south multi-use trail connector
- Evaluate site capacities within the corridor and adjust recommendations accordingly

Phase II Key Projects

- Construct the Tahoe Trail from Spring Creek Road to Emerald Bay and from Meeks Bay to Emerald Bay
- Develop a funding/financing plan with phase improvements
- Improve and construct piers and increase operation budgets for enhanced water taxi access
- Develop park-n-ride/bike lots in the Y area and at Sugar Pine Point State Park and convert Bayview Campground to a transit/parking node that also addresses off-season/winter access
- Address congestion in the Pope to Baldwin Segment through use relocations
- Implement LTBMU parking and circulation projects in Pope to Baldwin Segment
- Increase capacity for cyclist access to Camp Richardson
- Install technology infrastructure
- Develop a South Shore transit maintenance facility

Phase III Key Projects

- Construct the Tahoe Trail around Emerald Bay and maintain the trail
- Develop a funding/financing plan
- Evaluate need for a small parking area (15 spaces) by north Emerald Bay gates for off-season/winter access
- Conduct a regional visitation strategy to accommodate displaced visitation
- Adaptively manage the corridor and fine tune the travel framework, operations, and marketing program
- Consider bike lanes or widened shoulders throughout corridor
- Install technology infrastructure

Visitor Experience Cycle Implications

The Visitor Experience Cycle (VEC) defines five phases that are cyclical in nature: Anticipation, Arrival, Experience, Departure, and Savor. The VEC serves as a valuable model for gauging the impact of the CMP across the full spectrum of the visitor journey, for the purposes of ensuring overall balance and in identifying gaps. The CMP summarizes the impact each phase of improvements will have on visitor experience and makes recommendations for continued usage studies, on-site and post-visit surveys, and social media feedback analysis to gauge the impact of each individual initiative to build use of the transit system and to refine efforts.

A Note on COVID-19

In March of 2020, as development of the CMP was finishing, COVID-19 was declared a pandemic by the World Health Organization. Priorities of agencies and organizations appropriately shifted to address the immediate and critical needs associated with the pandemic. Regions such as Lake Tahoe, where the economy is driven by tourism, have incurred substantial economic hits and are projecting significant budget shortfalls. Because of these unprecedented times, the CMP recognizes that it is a long term plan and implementation of recommended projects and planning efforts may be delayed as jurisdictions, agencies, and organizations recover and as funding dollars may be prioritized on health and safety efforts prior to being earmarked for the corridor.

In addition to highlighting budget constraints, COVID-19 has also shown the urgency and need for the recommendations outlined in the CMP. Recreation areas, such as National Parks, that can control access through reservations and permits have been able to create opportunities for access to the outdoors while also maintaining physical distancing guidelines. The transportation framework presented in the CMP includes many similar tools needed to manage recreation and visitation levels.



The corridor is highly used for recreation access in both the winter and summer.

Commitment to Continued Partnerships, Funding, and Addressing Barriers

Implementation of CMP will take persistence, rigor, and a commitment to the partnership approach. Many of the challenges must be addressed at executive levels and staff level discussions must be consistent and focused on collaborative problem-solving. Upon completion of this plan, an agreement must be established to maintain the commitment to implementation. Executive Level meetings must continue with participation by lead agencies, high-level issues must be risen to the level of the Bi-State Working Group on Transportation, and a Corridor Management Team must be developed at the agency staff level.

As shown in the below figure, the focus of the Executive Team is to work through procedural, legislative, enforcement, capacity, funding, environmental review, and other high priority issues. The Corridor Management Team

supports the Executive Team and works together to create attractive grant funding applications, leverage resources, and create an operating plan that works corridorwide. Managing change for SR 89 requires partnering agencies to continue engaging the community and working together to implement projects, resolve issues as they arise, and further develop funding sources. The CMP promotes long term agency collaboration through a SR 89 Recreation Corridor Management Team made up of partnering agency representatives.

At times the Management Team should set up Technical Advisory Committees to address various needs throughout the year. It is not the intent to have this Corridor Management Team direct individual agency goals or their budgets but to establish a partnership that collaboratively works toward addressing their shared issues including budgetary constraints. In the future, partnering agencies may find efficiencies that could be gained by sharing resources.

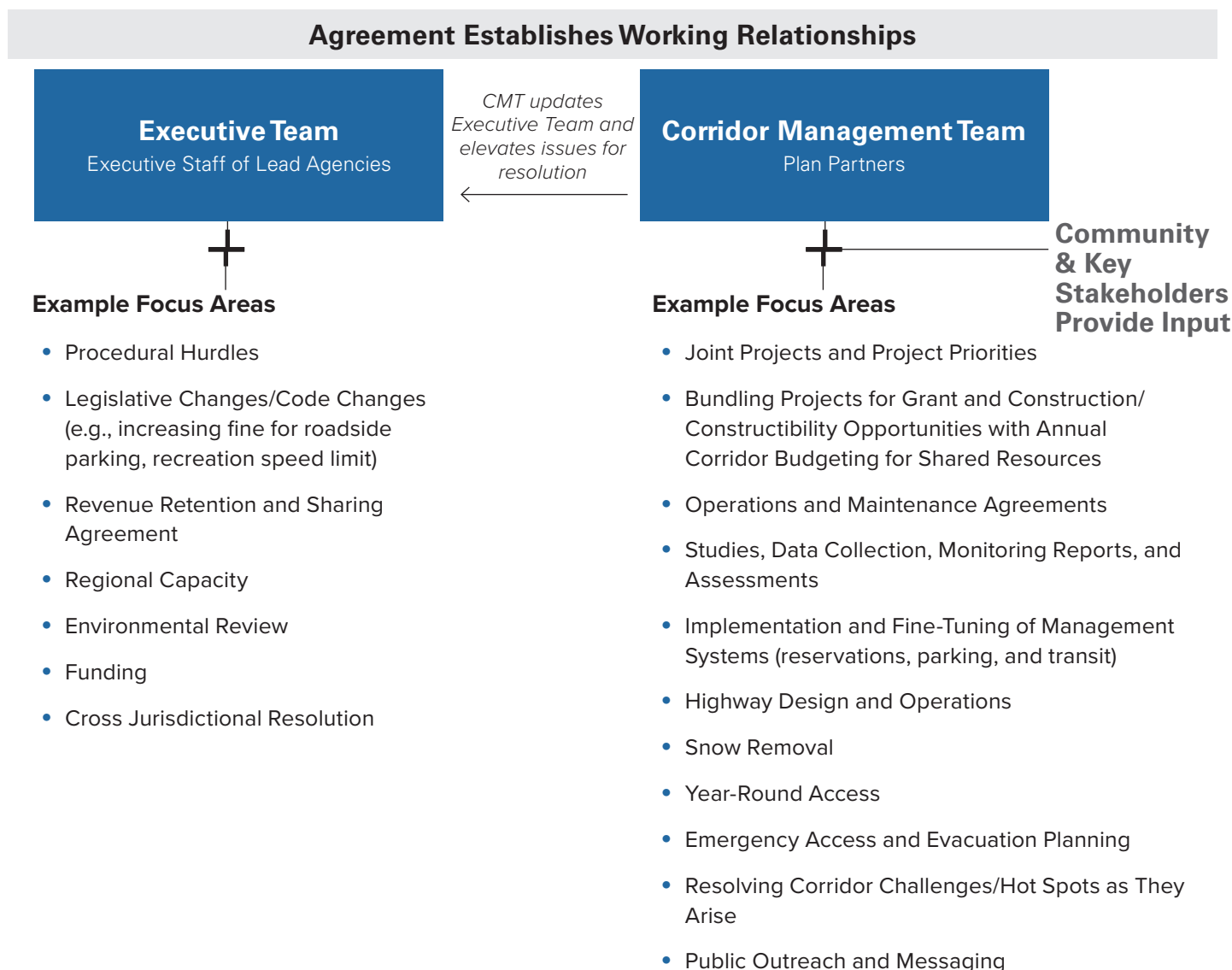


Figure 2: Focus Areas of Executive Level and Staff Level Teams to Implement Recommendations and Address Barriers

A young boy with short brown hair, wearing a light-colored camouflage-patterned long-sleeved shirt and dark blue pants, stands on a rocky ledge. He is holding a black smartphone up to take a picture of a large, calm lake in the distance. The lake is surrounded by forested hills under a clear blue sky. Other people are visible in the background, some sitting on a bench and others walking on a path. The scene is bright and sunny.

CHAPTER 1 INTRODUCTION

INTRODUCTION

The State Route Highway 89 (SR 89) Recreation Corridor Management Plan (CMP), led by the Tahoe Regional Planning Agency (TRPA), Tahoe Transportation District (TTD), and the USDA Forest Service Lake Tahoe Basin Management Unit (LTBMU), brought together 17 agencies and organizations to develop transportation and visitation management strategies that address the shared challenges related to the corridor's extensive transportation and recreation demands. The CMP sets forth a vision and coordinated set of goals for partners to work toward. The document sets the stage for why change is needed, summarizes recommended strategies to collaboratively manage the corridor, and includes a series of phased projects to achieve the vision for shifting the way people arrive to their recreation destinations from being car-focused to more transit and multi-modal access.

Corridor Planning and the Regional Transportation Plan

Corridor planning is an organizing framework to support regional transportation policy, align partners, and accelerate project implementation. The approach requires multi-agency collaboration, commitments, and resources to address shared issues across jurisdictional boundaries. The Tahoe basin is divided into six corridors based on their unique mix of transportation, recreation, and daily life. Corridor plans serve as overarching planning documents that guide the overall vision and strategies for each corridor.

The corridor planning framework is the bridge for implementation and long term operation of projects that implement the Lake Tahoe Regional Transportation Plan. Corridor planning aligns projects to maximize funding and considers opportunities and challenges from multiple stakeholder views. Projects and management strategies developed as part of this corridor plan are integrated into the 2020 Regional Transportation Plan. As projects move toward implementation, project champions are needed to drive progress while working with partners and the public to consider long term operations and maintenance of the entire corridor.

The SR 89 Recreation Corridor Management Plan is an umbrella document for other plans and projects within the corridor. It creates a central vision and is a mechanism through which land managers can work together to achieve common goals.

IMAGINING THE FUTURE

The Tahoe Trail beautifully winds its way along the west shore of Lake Tahoe. It welcomes users to explore the SR 89 corridor by bike and by foot. As the trail brings people to Emerald Bay, the Jewel of Lake Tahoe, pull-offs and vistas invite you to take a moment to enjoy the expansive beauty of the bay and the lake. Convenient, frequent and reliable transit serving the corridor's recreation destinations allows residents and visitors alike to easily visit and recreate without needing a car. Staffing and operation levels are balanced with the need to manage visitation and protect the special natural and cultural resources that make the SR 89 corridor an extraordinary place to be. This future is made possible through funding and continued partnerships and collaborations. As a team, all agencies work together to address challenges and seek solutions.

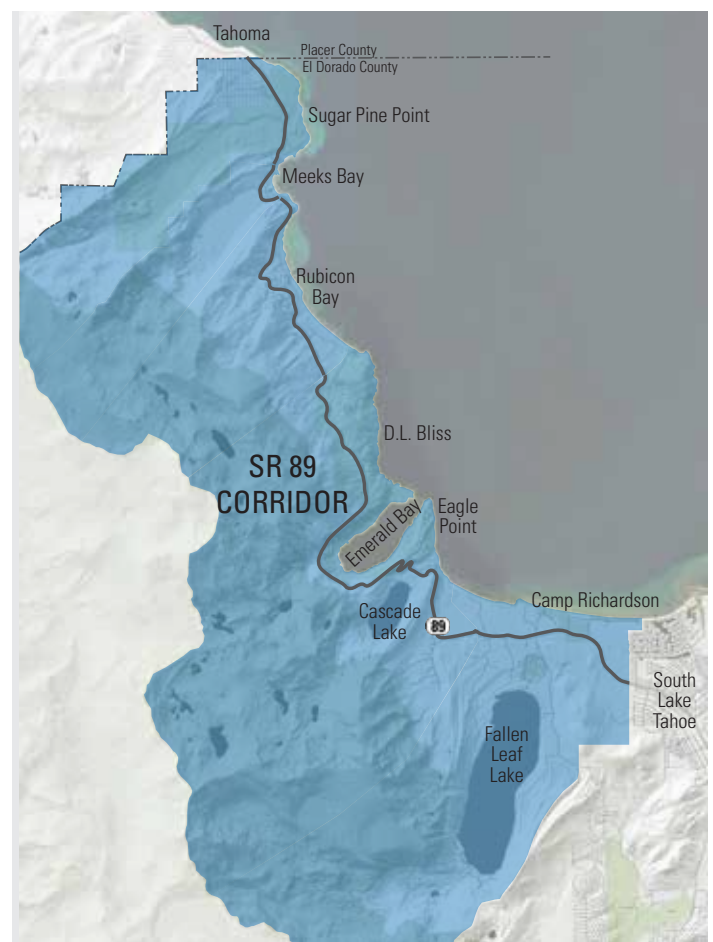


Figure 3: SR 89 Recreation Corridor

Relationship to Linking Tahoe: Corridor Connection Plan

The Tahoe Transportation District (TTD) developed the 2017 Linking Tahoe: Corridor Connection Plan (LTCCP or Corridor Connection Plan), which provided recommendations for all internal and external corridors for the Lake Tahoe Region. The SR 89 CMP uses the LTCCP as a baseline for data and high-level management strategies. The LTCCP describes the vision for the different corridors in Lake Tahoe. The SR 89 CMP describes more specific action items to achieve the vision.

Corridor Location

State Route Highway 89 (SR 89) is a two-lane mountain roadway running from Meyers, California north along the West Shore of Lake Tahoe to North Lake Tahoe and beyond. It is the only access route to many of Lake Tahoe's popular recreation areas and serves an average of 1.8 million visitors annually (per the Linking Tahoe Corridor Connection Plan). The SR 89 corridor includes 17.5 miles of highway and adjacent recreation uses from West Way in El Dorado County north to the El Dorado/Placer County line at Sugar Pine Point State Park.



Views across Emerald Bay to Lake Tahoe are the highlight of many visitors and a significant source of recreation opportunities for residents and visitors.

KEY TAKEAWAYS FROM RESEARCH AND 2018 DATA COLLECTION (SEE APPENDIX)

Key takeaways related to the SR 89 corridor from the Corridor Connection Plan and 2018 data collection include the following:

- With 1.6 million annual vehicle trips or 4.9 million person trips made to the Inspiration Point/Emerald Bay area in 2014, it is the most popular attraction in the corridor and possibly the Lake Tahoe Basin.
- Congestion and parking issues through Camp Richardson and Emerald Bay are the biggest transportation issues. Over 500 vehicles parked along the highway near Emerald Bay on a peak summer day. Motorists searching for parking and queues to enter recreation areas are primary drivers of congestion during the summer.
- The highway runs through the middle of two major recreation areas at Camp Richardson and Emerald Bay with high volumes of vehicles, bicycles, and pedestrians creating congestion and safety issues.
- Narrow roadways and minimal shoulders are not conducive for bike and pedestrian use.
- There are no bike and pedestrian facilities north of Camp Richardson and LTBMU beaches.
- There is limited parking at Emerald Bay/Eagle Falls, scenic overlooks, and other trailhead locations.
- The last year transit serviced the corridor was in 2018 and cars often illegally parked in bus stops.
- The corridor hosts a diverse array of recreation activities. Length of stay ranges from a quick photo-opp to a weeks-long overnight backcountry trip. There is significant need for recreation access throughout the year, particularly for winter backcountry access.
- Daily summer traffic volumes are highest at the south end of the corridor with 26,000 vehicles per day near the U.S. Highway 50/South Tahoe "Y" intersection and lowest at the north end of the corridor with 5,900 vehicles per day at Tahoma in 2016.
- Traffic congestion in 2018 caused an estimated average of 12 minutes of delay and a maximum delay of 30 minutes.
- There was an average of 29 reported crashes per year between 2013-2017, 11 resulted in injuries.

THE CHALLENGE

The LTCCP states that the “single biggest transportation issue associated with the SR 89 Recreation Corridor is addressing the congestion and parking issues through Camp Richardson and Emerald Bay.”

Visitor demand during peak season (Memorial Day through Labor Day) exceeds infrastructure and staffing/operational capacity for significant recreation destinations. The lack of infrastructure, operational, and enforcement strategies and resources to address the high visitation levels results in negative impacts to visitor travel experience, environment, cultural resources, lake clarity, safety, congestion, and quality of life.

The corridor is one of the most visited and most popular within the Tahoe Region. The Corridor Connection Plan reported that the corridor saw an average of 1.8 million annual visitors during 2014. RRC Associates’ Summer 2014 Visitor Research Summary for the North Lake Tahoe Resort Association showed 47 percent of respondents indicated spending time in Emerald Bay during their trip. And analysis of the 2018 data collection estimated over 16,000 people visited Emerald Bay every day.

During the summer, vehicular queues begin forming between 8:00 AM and 10:00 AM at beach entries, trailheads, and off-highway vista points. The back-ups stretch into the highway and create congestion and travel delays. Emergency responders and transit operators are often significantly impacted by the congestion.

Not enough designated off-highway parking spaces exist to meet the demand of visitors arriving by vehicle to Emerald Bay and Camp Richardson recreation areas. As a result, motorists search for places to park along narrow shoulders, and because recreation sites are not connected, motorists must enter and exit the highway multiple times when they visit more than one destination. The search for parking increases congestion, leads to traffic incidents, increases erosion, and impacts water quality projects. Additionally, visitors who park along the highway must walk along the shoulder or within the roadway to reach their destination.

In the winter, SR 89 through Emerald Bay closes during and after winter storms due to avalanches and narrow shoulders. This impacts emergency responders and commuters who must travel around the East Shore to reach places of employment, meetings, or the grocery store.

Seasonality and variability in winters requires adaptive management. When the highway is open during the winter, it is a desirable location for backcountry ski access and for taking in the view. Because of operational requirements, most Forest Service parking lots generally close mid-October through mid-May. People must park along the roadway to access winter recreation sites. During the shoulder season and winters with little to no snowfall, vehicles park on the shoulder because the LTBMU parking lots are closed. Due to climate change trends, reduced snowfall at Lake level occurs more frequently. Therefore, the need to provide access during winter months is increasing.



Addressing the congestion and parking issues near Pope Beach and Camp Richardson and through Emerald Bay present the biggest transportation challenge for the corridor.

THE VISION

The LTCCP describes the transportation vision for the corridor's future and the CMP builds upon that description as summarized in the vision statement to the right. Transit and active transportation facilities are at the heart of how people are envisioned to access recreation areas. Natural and cultural resources are protected. Convenient, frequent transit services, with an interconnected system of walking and biking paths, connect people to the places they want to visit. Technology is used both as part of parking management systems and for real-time visitor information.

THE VISION | PRESERVING AN ICON BY INCREASING TRAVEL CHOICES

Provide a safe and seamless travel experience that inspires every visitor and resident to walk, bike, or use transit to access the corridor's diverse recreation offerings to better manage congestion, enhance environmental resiliency, and allow people to focus on enjoying the special nature of Lake Tahoe's southwest shoreline.

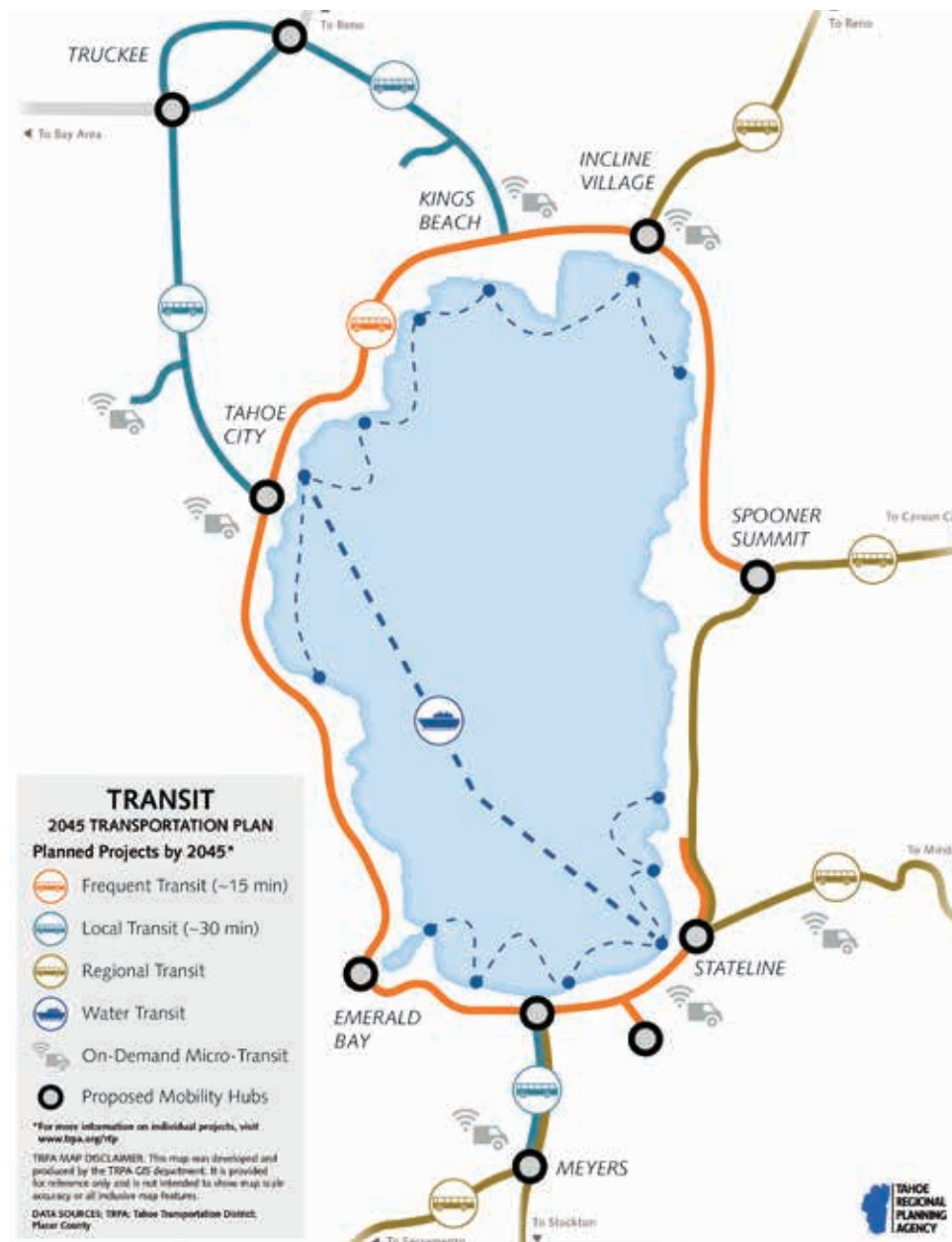


Figure 4: Regional Transit Vision Diagrammed in the Regional Transportation Plan

PROJECT PARTNERS AND PROCESS

A number of agencies manage, administer, and/or operate lands within the corridor. A Steering Committee, comprised of the TTD, TRPA, and the LTBMU brought these entities together to develop a plan that addresses the shared issues spanning jurisdictional boundaries. A large portion of the roadway travels through public lands managed by either the LTBMU or the California Department of Parks and Recreation (CDPR). The highway itself is operated by the California Department of Transportation (Caltrans).

Plan partners were organized into a Project Development Team and included the following entities:

- Tahoe Transportation District (TTD)
- Tahoe Regional Planning Agency (TRPA)
- USDA, Lake Tahoe Basin Management Unit (LTBMU)
- California Department of Parks and Recreation (CDPR)
- California Department of Transportation (Caltrans)
- El Dorado County (EDC)
- Washoe Tribe
- California Highway Patrol (CHP)
- California Department of Forestry and Fire Protection (CDF)
- Lake Valley Fire Protection District (LVFPD)
- Fallen Leaf Fire Department (FLFD)
- Meeks Bay Fire Protection District (MBFD)
- Placer County (PC)
- City of South Lake Tahoe (SLT)
- Tahoe Truckee Area Regional Transit (TART)
- Truckee North Tahoe Transportation Management Association (TNTTMA)
- Tahoe Fund



Plan partners worked with corridor stakeholders to evaluate transit options and develop project recommendations for the corridor as a whole.

OUTREACH

A robust stakeholder and public engagement effort was conducted as part of the planning effort. It included Project Development Team meetings, focus group meetings, stakeholder workshops, public open houses, webinars, in-person surveys, and on-line surveys to expand the number of responses, and quality of input.

Project Development Team Meetings

The plan partners met seven times as part of the Project Development Team during the project process:

- Vision and values
- Existing data summary
- Visitor experience workshop and best practices
- Data collection and alternatives overview (see Appendix F for the Existing Conditions Summary Report)
- Draft strategies and roles and responsibilities
- Mobility alternatives, evaluation criteria, and roles and responsibilities
- Admin draft, approvals, and implementation

In addition to the group meetings with plan partners, 15 one-on-one meetings were conducted, 11 presentations were given to agency boards, and three Washoe Tribe consultations were held to provide transparency and gain endorsement from decision-makers.

Stakeholder Meetings

Stakeholder meetings invited plan partners, other resident business people, and interested property owners and encouraged collaboration and input from those who may partner in the corridor outcomes. Nine stakeholder meetings were held. The first series of meetings were organized into

four focus groups: homeowner association representatives; in-corridor recreation and business providers; neighboring recreation and business providers; and advocacy, chamber, and conservancy group representatives.

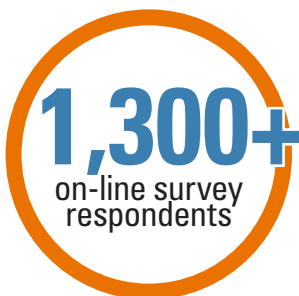
The next series of stakeholder meetings combined the focus groups and engaged participants in mapping out corridor strengths and opportunities as part of a world cafe facilitated exercise. The following stakeholder meeting invited the group to develop transportation alternatives while balancing the trade-offs for operations and budget needs. The final stakeholder meeting was held over Zoom to review the draft CMP.

Between the organized stakeholder meetings, project team members met with homeowners in the Rubicon Bay and Meeks Bay areas to walk potential trail alignments and discuss opportunities and challenges. In total, 20 presentations or meetings were conducted with homeowner association groups.

Public Outreach

An on-line survey and intercept survey were conducted during initial project phases to gather input from both corridor users and a cross-section of residents and visitors. Over 1,300 responses were collected from the on-line survey. A project website was established and an email database developed to share project updates, allow for comments, and to answer questions. Over 950 emails were on the project update list and thousands of comments and questions were received. These comments were used to inform and shape the plan recommendations.

Open houses were held in both the north and south ends of the corridor and three webinars were conducted to share transportation and project alternatives and recommendations. Over 160 viewers participated in the webinar. Overall, participants expressed support for a more car-free experience for recreation access and desire for completion of the Tahoe Trail.



over **325** webinar
participants to
two events

950+
on email contact list

65 meetings to
engage & partner with
17 partner agencies & organizations | businesses &
concessionaires | non-profits | HOAs | residents |
recreation users & visitors

CORRIDOR MANAGEMENT

Seeing change in the corridor requires implementing multi-benefit projects and managing the corridor across jurisdictional boundaries while also recognizing each agency's mission and goals. The CMP is organized with this goal in mind. It identifies opportunities for partnerships and collaborations among agencies to complete projects and fund their implementation, maintenance, and operations.

The plan's primary goals relate to safety, natural and cultural resources, transportation, the travel experience, and funding and implementation. These elements align with individual agency management plans, conceptual studies, and other governing documents. Technology facilitates achieving corridor goals and its application is considered throughout the corridor to aid implementation and management.

Technology

Innovations in technology increase the ability for agencies to manage and maintain the corridor in a beneficial way. Apps for mobile phones and tablets can be coupled with parking kiosks or embedded sensors to quickly distribute information and allow potential users to identify desirable recreation destinations and potential parking locations and availability. Intelligent Transportation Systems (ITS) such as digital message systems boards seen on resident highways can be used to instantly notify drivers of changing road conditions and corridor opportunities. Radio can be used to distribute messaging.

The world of technology is continually evolving and provides more and more options for assisting jurisdictions and agencies to reach their goals. Continual consideration, review, and incorporation of innovative advances should occur throughout every aspect of corridor management.

In order to leverage the management tools available through new technologies, the gaps in broadband and cellular coverage in the corridor must be addressed and parking and recreation access information needs be able to utilize Intelligent Transportation Systems (ITS). Projects that improve the corridor's technology infrastructure are of critical importance to achieve the goals and objectives set in this plan.

Integration of Resource Management

The integration of resource management requires continual agency coordination and cooperation. Each entity is responsible for the implementation of their individual agency management plans. This document does not supersede

Seeing change in the corridor requires implementing multi-benefit projects and managing the corridor across jurisdictional boundaries while also recognizing each agency's mission and goals.

that requirement. Rather, it highlights the connectivity between resource management and the corridor. Resource areas can not be appropriately planned without considering safe, appropriate access and potential user needs. Likewise, recreation access should be thoughtfully planned to minimize and reduce impacts on natural and cultural resources. Depending on the nature and scale of the project, TRPA staff may either approve the project or take it to the Hearings Officer or Governing Board for approval. Requirements for when a project must go to the Hearings Officer or the Governing Board are described in the TRPA Code of Ordinances.

Related Documents

The first steps toward coordination includes recognizing and building from resource and management plans relating to the corridor. The CMP does not supersede these documents. Rather, it recognizes their importance and directs land use managers to be aware of what management actions others may be completing or contemplating within the corridor to coordinate goals and projects.

A list of relevant plans and project sources as of June 2020 is presented below. The recommendations described in the CMP align with the common goals and objectives found in these documents and current planning efforts.

- 1969 Sugar Pine Point State Park General Development Plan
- 2005 Draft TRPA Regional Recreation Plan
- 2007 LTBMU Recreation Facility Improvements List
- 2008 Caltrans Water Quality Project Eagle Falls Viaduct to Meeks Creek
- 2009 Camp Richardson Resort Vision Plan
- 2010 Replacement of Taylor Creek Education Center
- 2011 LTBMU South Shore Corridor: An Approach to Sustainable Recreation
- 2011 City of South Lake Tahoe General Plan
- 2011 Meeks Bay BMP Retrofit
- 2012 Caltrans SR 89 Transportation Corridor Concept Report

- 2012 Meeks to Sugar Pine Class 1 Bike Path Study
- 2012 North-South Transit Connection Alternatives Analysis
- 2012 TRPA Regional Plan Update
- 2013 Camp Richardson Resort Campground and Vehicle Circulation BMP Retrofit
- 2013 LTBMU Fallen Leaf Lake Trail Access and Travel Management Plan
- 2014 Tallac Historic Facilities BMP Retrofit
- 2015 & 2018 Tahoe Prosperity Center Measuring for Prosperity: Community and Economic Indicators for the Lake Tahoe Basin
- 2015 Meeks Bay Resort Conceptual Design
- 2015 North Lake Tahoe Tourism Master Plan
- 2015 Tahoe Valley Area Plan
- 2015 LTBMU Integrated Management and Use of Roads, Trails and Facilities
- 2016 Linking Tahoe: Active Transportation Plan
- 2016 Regional Transportation Improvement Plan
- 2016 TART Short Range Transit Plan
- 2016 LTBMU Land Management Plan
- 2017 Linking Tahoe: Corridor Connection Plan
- 2017 Linking Tahoe: Regional Transportation Plan (update in progress)
- 2017 Long Range Transit Master Plan
- 2017 TTD Short Range Transit Plan
- 2017 LTBMU Integrated Management and Use of Roads, Trails and Facilities
- Over 40 Corridor Environmental Improvement Projects
- Final Alternatives Memo for Meeks Bay Resort to Sugar Pine Point SP Class 1 Bike Path
- Plan Area Statements
- 2017 Tahoe-Truckee Plug-In Electric Vehicle Readiness Plan

In-Progress Planning Initiatives

- Lake Tahoe West Restoration Partnership
- Meeks Bay Restoration Project
- 2020 Lake Tahoe Regional Transportation Plan Update
- Mayala Wata Restoration Project at Meeks Meadow
- Vikingsholm Visitor Parking Lot and Entrance Renovation
- The Lake Trail Multi-Use Single Track Trail Project



Plan partners must continue to work together, in alignment with individual agencies missions, goals, and governing documents.

CORRIDOR AND PLAN ORGANIZATION

Within this plan, projects and strategies are presented both from an overall corridor perspective and then by projects within each of the five segments. Each segment has defining physical characteristics, land uses, recreation opportunities, transportation, and visitor use patterns. As such, the challenges and potential strategies for each segment may vary while also being dependent on an overall corridor approach.

The five segments of the SR 89 corridor include:

- Pope to Baldwin
- Emerald Bay
- Rubicon Bay
- Meeks Bay
- Sugar Pine Point

Plan Organization

The SR 89 Recreation Corridor Management Plan consists of a series of corridorwide strategies and recommendations built from an analysis of corridor issues and opportunities and discussions and evaluation of those opportunities with plan partners, stakeholders, and public. The plan is organized into the following chapters:

- Chapter 2 | Corridor Plan Importance
 - Describes what makes the SR 89 corridor special and summarizes the shared challenges associated with recreation access. A series of goals are established and anticipated environmental benefits are identified.
- Chapter 3 | Implementation Strategies
 - Connects corridor issues with recommendations. A series of 28 key challenges are described in coordination with a set of strategies to address each topic. Plan partners may use the individual summary sheets to align future projects with corridor management strategies. The list of strategies is also summarized as a project matrix in the appendix.
- Chapter 4 | Travel Analysis
 - Summarizes the mobility alternatives explored during the plan process. Discusses key findings that informed the development of a recommended travel framework.
- Chapter 5 | Recommended Travel Framework
 - Presents three phases of transit, trails, and technology improvements and corresponding infrastructure improvements to move the corridor toward a more car-free experience.
- Chapter 6 | Corridor Projects – Action Plan by Segment
 - Presents, by corridor segment, the series of infrastructure and management projects that should be implemented to achieve the desired travel framework and corridor goals. The list of projects is also summarized as a project matrix in the appendix.
- Chapter 7 | Visitor Travel Experience
 - Discusses the stages of a visitor's travel experience cycle and how corridor recommendations relate to each stage.

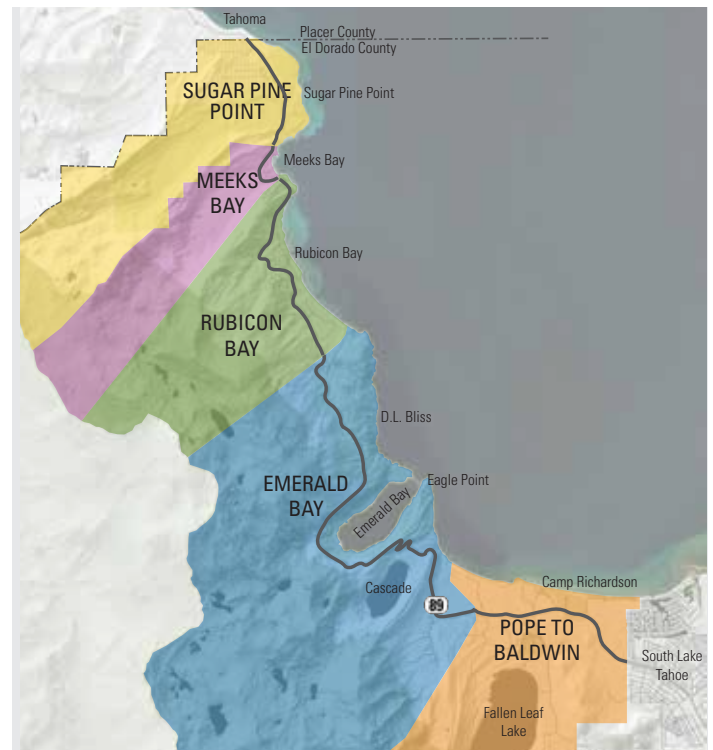


Figure 5: Segments of the SR 89 Recreation Corridor

- Chapter 8 | Implementation, Monitoring, and Management

- Explains the importance of adaptive management to analyze and refine strategies moving forward. Roles and responsibilities for corridor projects and maintenance are presented along with the establishment of an Executive Team, Corridor Management Team, and project leads.

MOVING TO IMPLEMENTATION

The CMP creates a platform for continuing the coordinated corridor approach developed through the Linking Tahoe Corridor Connection Plan and SR 89 CMP processes. Moving forward, an Executive Team, Corridor Management Team, and project champions must be established to implement the plan and realize change. An agreement or other legal document should be developed amongst the partner agencies to document the Management Team's structure and decision-making framework.

The document summarizes current plan recommendations, core strategies, and actions to implement projects and move the corridor towards its goals. It identifies a broad-based vision and means to achieve results. It is anticipated that concessionaires who may operate sites under a Special Use Permit would work through their respective agency to achieve the CMP goals.

This process takes time and commitment. It is likely that new opportunities and challenges will arise that alter strategies to achieve corridor goals. As circumstances change, the Management Team should modify the project list and adjust recommended action items accordingly.

Programs are administered, managed, and implemented by a multitude of agencies at different levels of government under a wide array of statutory and regulatory authorities. Moving forward means the Management Team must continue the alignment of the various programs and a champion is needed as a call to action to achieve desired outcomes.

The appendix contains a summary of recommended projects, the existing conditions data summary, and calculations for estimated parking requirements. This information can be used for planning and future grant applications.

Partnerships & Governance

As part of the development of the CMP, participating agencies and governing bodies entered into a Project Charter. The charter documented their commitment to multi-agency

USING THE PLAN

- Identify core issues and desired conditions for a potential project
- Identify corresponding issues and recommended strategies for corridor management (see Chapter 3)
- Review corridor recommended projects to identify project correlations (see Chapter 4)
- Identify potential partners and funding sources
- Coordinate with the Corridor Management Team to coordinate and implement projects
- Utilize data from the Existing Conditions Summary Report (see appendix) as part of grant applications to show project benefits and detailed data

MAINTAINING THE PLAN

- Develop an Executive Team and a Corridor Management Team from the plan partners (see Item 26 in Chapter 3)
- Meet according to current project needs and long-term coordination
- Coordinate projects and management strategies
- Update consolidated project list annually
- Provide annual progress reporting

coordination within the corridor, development of the CMP, and working together to address SR 89's shared challenges. Additional multi-agency agreements will be developed as specific projects move forward.

The intent is for the CMP to be a living document. Partnering agencies are encouraged to establish an Executive Team and a Corridor Management Team. A participating staff member from each agency should, at a minimum, meet quarterly to address continued challenges, seek solutions, prioritize projects, and collaborate to seek funding opportunities in the corridor. This requires an update of the Project Charter or development of a new agreement upon completion/approval of the CMP.

The CMP recommends that an agreement be developed that allows funds generated within the corridor to be used for new projects and maintenance within the corridor. Current management structures do not allow for that approach. Therefore the plan identifies methods by which the approach may be implemented.

Environmental Compliance

The CMP is a planning study that provides an overall vision of the corridor and recommendations that could be implemented by one or more of the several agencies with jurisdiction over land and/or facilities to achieve that vision. The CMP makes recommendations but does not approve any projects, and any implementation of recommended actions would be at the discretion of the various agencies and subject to full environmental review. The CMP is a tool for agencies to identify potential projects, and also identify other agencies that may make an appropriate partner in environmental review and implementation. Although a single agency might serve as the project proponent, it is anticipated that they would collaborate with other agencies to coordinate projects and consider the cumulative impacts of all projects identified in the CMP.

Some CMP-implementing actions would result in physical changes to the environment, requiring environmental review and permitting in accordance with Federal, TRPA, and State of California laws, as applicable. The environmental review process requires consideration of all direct, indirect, and cumulative effects of the proposed actions. If significant adverse effects on the environment are anticipated, project alternatives would be evaluated, as well as feasible mitigation.

CMP projects implemented with federal funds, located on federal lands, or that require approval by one or more federal agencies are also required to comply with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality's regulations implementing NEPA (40 Code of Federal Regulations [CFR] Section 1500 et seq.). The NEPA lead agency is typically the federal agency with the primary approval authority for the federal action to be implemented.

For transportation projects receiving federal funds, either the Federal Highway Administration (FHWA) or the Federal Transit Administration (FTA) (operating administrations under the U.S. Department of Transportation) is typically the Federal lead agency. The LTBMU would likely be the NEPA lead agency, when National Forest System (NFS) lands are involved.

Lands managed by the LTBMU and by California Department of Parks and Recreation (CDPR) are located throughout the SR 89 corridor. In instances where a CMP project (such as the Tahoe Trail) would be located on NFS lands, the LTBMU may be the appropriate NEPA lead agency. Where multiple federal agencies approvals are required (e.g., where a project is located on NFS land and receives federal funding), a cooperative agreement between the

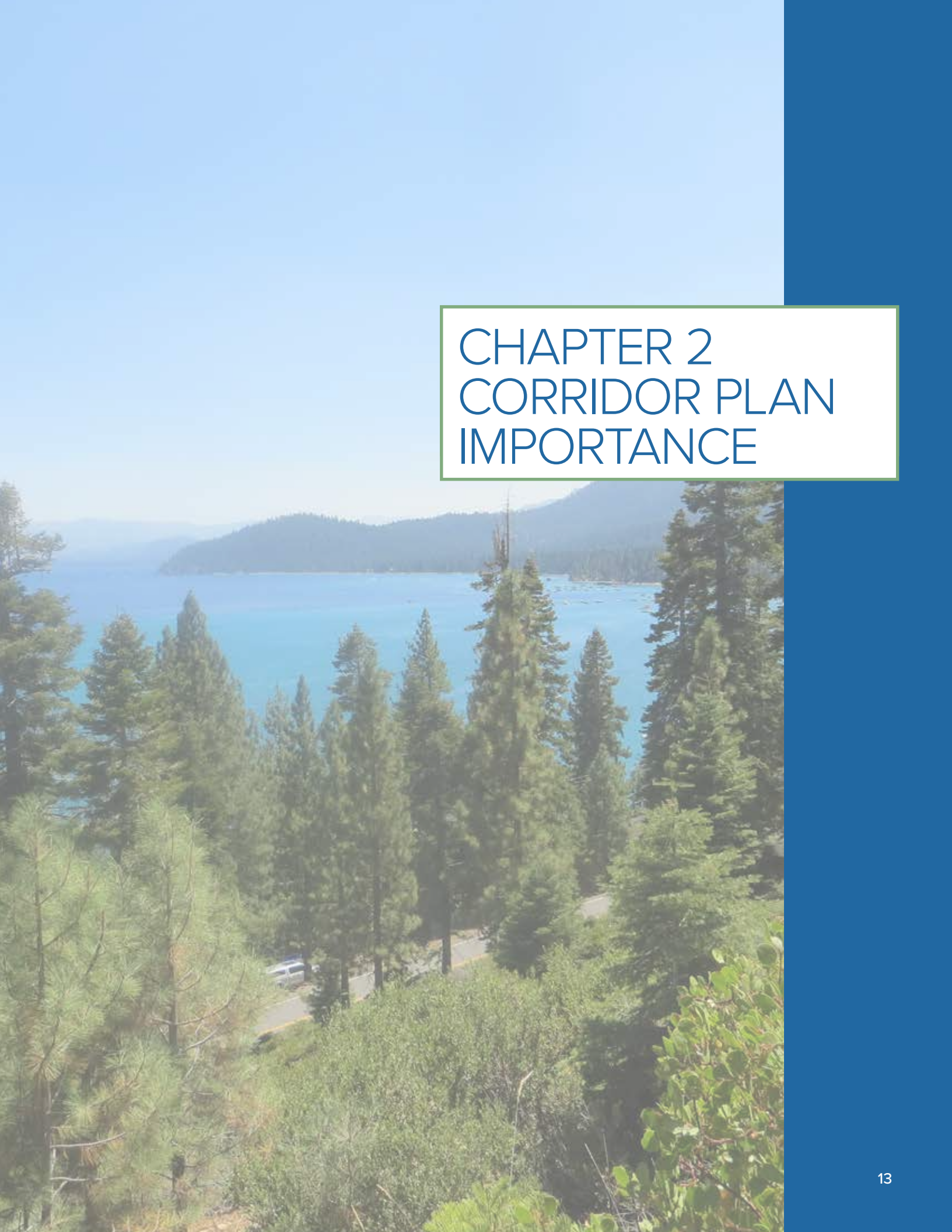
federal agencies would be made to designate the NEPA lead agency. In instances where a CMP project (such as the Vikingsholm parking lot improvements) would be located on CDPR lands, the CDPR may be the appropriate CEQA lead agency.

TTD serves the unique role of sponsoring, allocating funds for, implementing, and managing transportation projects throughout the Basin. TTD may acquire, own, and operate public transportation systems and parking facilities serving the region. TTD also has the ability to receive specific tax revenue to support transit and transportation facilities. TTD can and has led CEQA and has been instrumental in coordinating with TRPA and NEPA lead agencies to facilitate completion of the appropriate environmental review.

Several other agencies plan, evaluate, approve, finance, and implement roadway and transit projects of their own. Some of these projects also involve facilities that are intended to satisfy non-motorized transportation and recreational demands, but also have utility as part of the broader transportation network. These agencies include Caltrans and El Dorado County, among others. Each has its own unique set of characteristics affecting the timing and strategy for the environmental review process, including varying project objectives, lead agencies, jurisdictional locations, degree of urgency in the implementation schedule, potential funding sources, and requirements for environmental compliance.

In addition to environmental review, projects described in the CMP would be subject to permitting. The breadth of permitting required for individual projects would depend on the location and characteristics of the project.

All projects under the CMP resulting in physical landscape changes would be subject to TRPA permitting and approval in accordance with the Tahoe Regional Planning Compact (Public Law 96-551), the Code of Ordinances, and the Rules of Procedure. TRPA is responsible for ensuring that projects within the Tahoe Region are consistent with the Regional Plan and Regional Transportation Plan, and for conducting environmental review of discretionary projects. Depending on the nature and scale of the project, TRPA staff may either approve the project or take it to the Hearings Officer or Governing Board for approval. Requirements for when a project must go to the Hearings Officer or the Governing Board are described in the TRPA Code of Ordinances.



CHAPTER 2 CORRIDOR PLAN IMPORTANCE

A SPECIAL PLACE

The SR 89 Recreation Corridor traverses 17.5 miles of Lake Tahoe's spectacular southern and western shoreline. Among its many natural, cultural, and recreational resources, it is home to Emerald Bay, one of California's 36 National Natural Landmark sites. Renowned for its spectacular beauty, Emerald Bay is one of Lake Tahoe's most popular and most photographed locations. The vantage points such as Inspiration Point and Vikingsholm offer views of the bay and the expansive lake beyond.

Almost 12 miles of undeveloped shoreline welcome beach access to sites such as Meeks Bay, Sugar Pine Point State Park, Baldwin Beach, Camp Richardson, and Pope Beach. Seven trailheads provide day hike access to waterfalls and alpine lakes as well as backcountry and wilderness access for overnight recreation opportunities.

In addition to the stunning vistas and recreation opportunities, the corridor is home to natural and cultural resources of significant importance. Ospreys and Bald Eagle nests occur throughout portions of the corridor. Significant clusters of Osprey nests are found in Emerald Bay. The Tallac Historic site, Vikingsholm, and the Hellman-Ehrman Mansion are three historic cultural sites along the corridor. The Washoe Tribe holds the lands as sacred. Not only do they operate the Meeks Bay Resort, but they have an annual cultural festival on the Grand Lawn of the Heller Estate and they practice cultural activities near Taylor Creek and at a site that is planned to be a future home of a Washoe Cultural Center.

The variety of natural and cultural resources abound in the corridor, making it the jewel of Lake Tahoe. A special place to be and an important place to protect so it is not loved to death.

Land Use and Terrain

Eighty-eight percent of the SR 89 corridor has a land use designation of conservation or open space. The public lands are primarily owned or managed by the USDA Lake Tahoe Basin Management Unit (USFS-LTMBU or LTBMU) and California State Parks (CSP or State Parks). Due to the high percentage of public lands, only 2,784 residential units are located in the corridor. Of these units, 93.5 percent are single family. Eighty-three percent of the single family units are for seasonal/recreational use. Compared to other corridors in the Tahoe Region, the SR 89 corridor has the highest percentage of seasonal ownership and the lowest land use density (13 persons per square mile).



Views of Emerald Bay are prized by residents and visitors alike.



Figure 6: Ownership | SR 89 Corridor

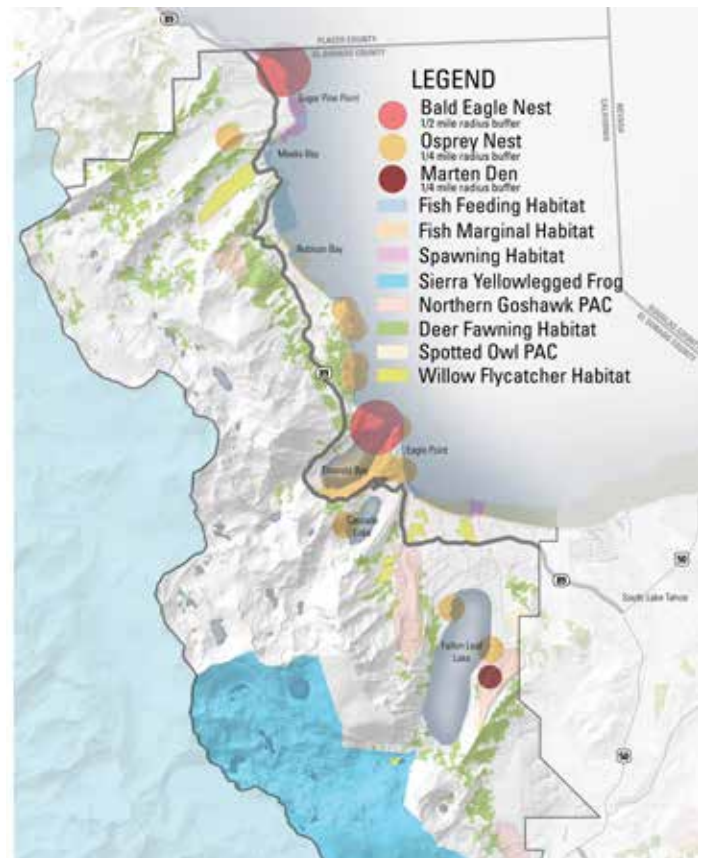


Figure 7: Natural Resources | SR 89 Corridor



Recreation activities in the corridor occur year-round. Winter recreation includes activities such as cross-country skiing, snow play, sight seeing, and backcountry access.

Gently sloping lands are located in the southern and northern areas of the corridor. The terrain steepens around Cascade Lake and through Emerald Bay and D.L. Bliss. The steep escarpments of Emerald Bay and surrounding slopes are the result of glaciers carving out the bay. Avalanche chutes and landslide remnants speak to the abrupt terrain. The upland areas west of Rubicon Bay also begin to quickly rise through the residential neighborhoods and LTBMU lands.

Recreation Destinations and Use

The Existing Conditions Summary Report can be found in the appendix and includes a more in-depth review of corridor research and data collection efforts. The SR 89 corridor has a variety of both summer and winter recreation opportunities. Second to the east shore of Lake Tahoe, it offers the longest stretch of continuous, undeveloped publicly accessible shoreline which makes beach-going a popular activity. Day hikes, sight-seeing, and camping are also high demand activities. Distinct to this corridor, the area has a mix of both short vista stops, longer day use activities, and even longer overnight backcountry activities. The number of different activities and the well-publicized and highly-recognized Emerald Bay landscape combine to create one of Lake Tahoe's most visited locations.

The LTCCP used cell phone data to identify destination hot spots in Lake Tahoe. Additionally, the 2020 RTP used 2019 Streetlight cell phone data to identify regional hot spots. Both analyses showed that the area around Emerald Bay has high volumes of activity in the summer and winter. Camp Richardson is a minor hot spot in the summer.

The LTCCP estimated the corridor hosted an average of 1.8 million annual visitors in 2014. A third of the visitors



Winter recreation access in the corridor is as important as summer access.

CORRIDOR DISTINCTION

In addition to the iconic destination of Emerald Bay, the variety of corridor recreation options makes this corridor distinct from other corridors. **These natural resources and the public access bring the mix of short visit stops, longer day use activities, and overnight backcountry stays.** Following are just a few notable items:

- Emerald Bay is one of California's 36 National Natural Landmark sites
- The longest stretch of easily accessible large sandy public beaches, such as Pope Beach and Baldwin Beach
- The most public campground spaces
- Portals into the backcountry and Desolation Wilderness
- Significant winter and off-season visitation
- Mix of public lands and private concessionaires

likely recreated on beaches and in campsites from Pope Beach to Baldwin Beach. Records for Pope Beach, Camp Richardson, and Baldwin Beach tallied 637,938 visitors who paid for parking in the summer of 2017. An analysis of 2018 visitation to Emerald Bay estimated 16,180 persons visited Emerald Bay in 2018 on an average busy summer day. Of those, 10,653 had a potential to shift to transit. The analysis estimated 5,920 persons visited the Pope to Baldwin Segment on an average busy summer day in 2018.

Emerald Bay (which includes Inspiration Point; Bayview campground and trailhead; Eagle Falls trailhead; and Emerald Bay State Park with Vikingsholm, Eagle Point campground, and a boat-in campground) likely accounts for the highest volume of visitors. State Park's records show that throughout the 1980's through early 2000's, annual attendance ranged from 500,000 to 600,000 just for the State Park facilities. Day hikers, sightseers, and people traveling around the Lake are not included in those counts.

The Tahoe Prosperity Center's 2018 Measuring for Prosperity Report showed that summer lodging revenues have consistently grown since the 2009/2010 season. From 2009/2010 to 2016/2017, revenues grew by 84 percent in Zephyr Cove and Stateline, Nevada; by 83 percent for South Lake Tahoe; and by 36 percent for the North Shore. These numbers reflect the growing demand for visitation in Lake Tahoe and the subsequent desire for recreation access.

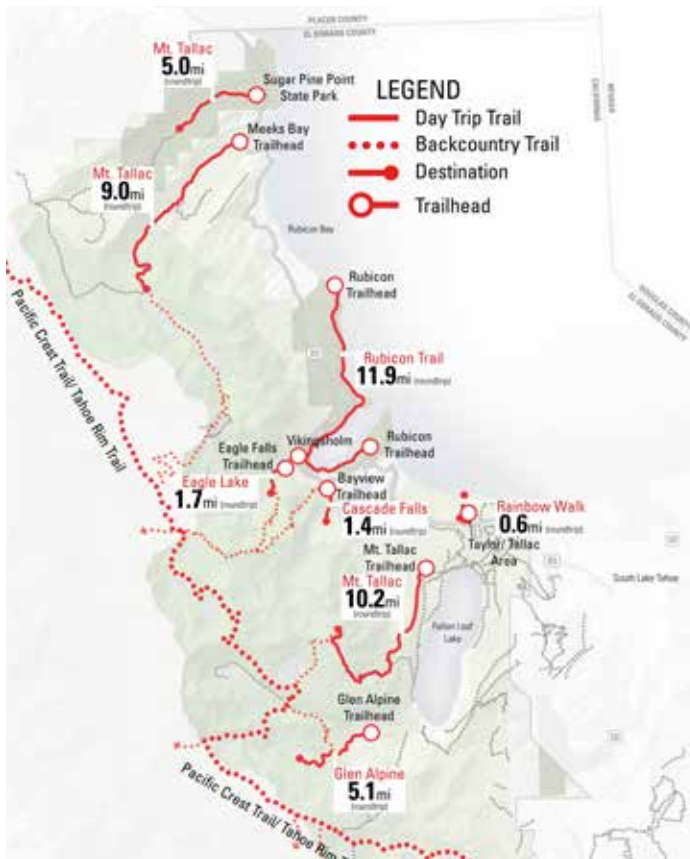


Figure 8: Trails and Trailheads | SR 89 Corridor



Figure 9: Publicly Owned Accessible Shoreline

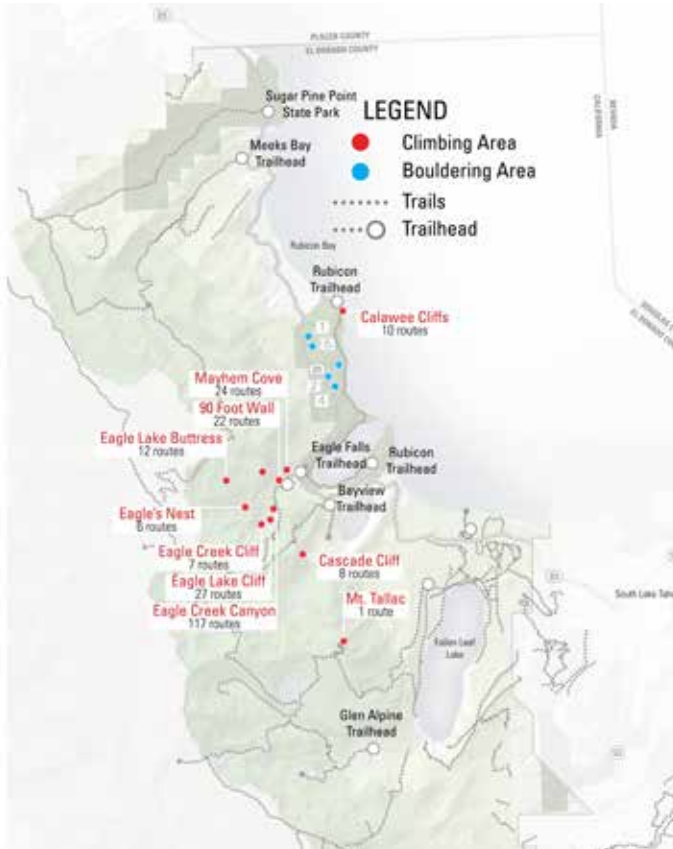


Figure 10: Climbing and Bouldering Locations | SR 89 Corridor

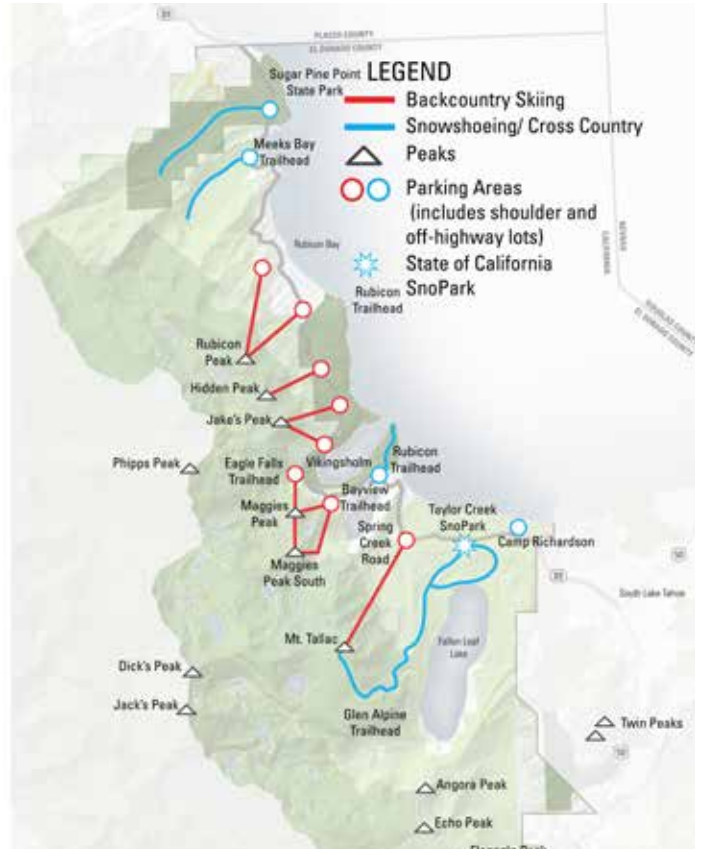


Figure 11: Winter Recreation Access | SR 89 Corridor

KEY ISSUES

The corridor's mix of scenic, recreation, residential, and natural and cultural resources make it attractive for people to visit and live. **However, the demand for visitation has risen to a level that is not sustainable for the current infrastructure and operational capacity.** As discussed in Chapter 1, and stated in the LTCCP, the "single biggest transportation issue associated with the SR 89 Recreation Corridor is addressing the congestion and parking issues through Camp Richardson and Emerald Bay."

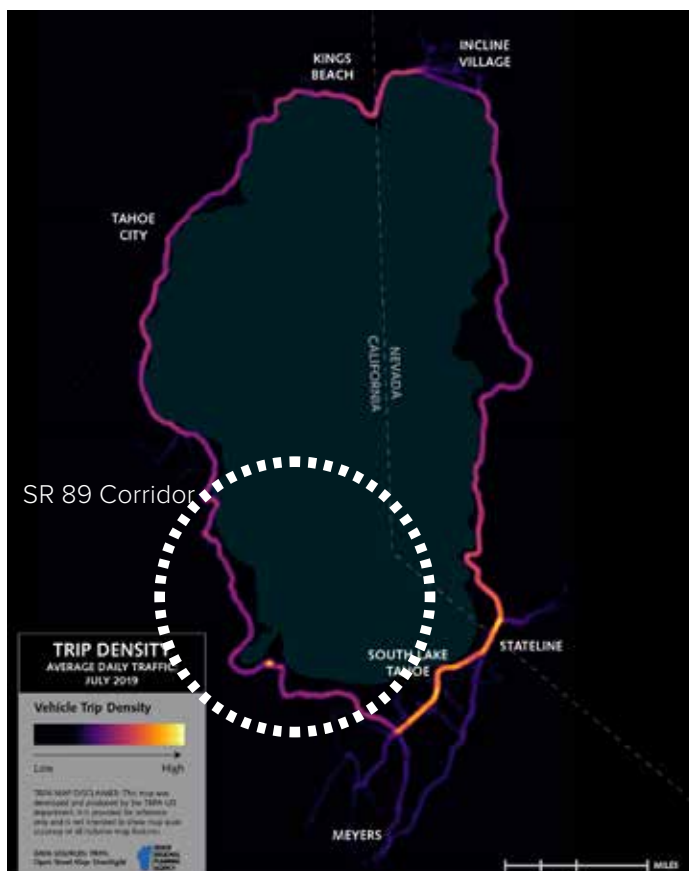
The Need: Visitation demand has exceeded existing infrastructure resulting in the following key transportation and visitor management issues:

- Safety concerns
- Increased environmental disturbance and stormwater run-off resulting in degraded lake clarity
- Impact to cultural resources
- Poor visitor travel experience which has a risk for economic impacts as the area has reached a saturation point
- Congestion and traffic

The corridor is also subject to growing visitation. Anticipated growth for the Sacramento Valley, Bay Area, and Reno regions will result in continued increase in visitation volumes. The Association of Bay Area Government's projections (also used in the 2020 RTP) show a twenty-seven percent increase by 2040 and projects an increase of 3.8 million people for a total of 10.4 million people living in those Northern California counties by 2060. The Economic Development Authority of Western Nevada also projects a population growth of almost 55,000 people by 2023 in the five-county region of Washoe County, Carson City, Douglas County, Lyon County, and Storey County. This growth will create added demand for recreation access in Lake Tahoe and amplifies the need to develop an approach to manage visitation now before it continues to increase.

The CMP establishes a travel framework based on the 2018 visitation. The system could accommodate a modest future increase of 5 percent. Increased recreation demand needs to be addressed at a regional level. Transit, trails, and parking management programs provide tools to shift use patterns to reduce impacts and to monitor and control demands as appropriate. The system can also scale up or down to meet desired management levels.

The following pages include a summary of the defining elements and key issues associated with each corridor segment.



average of
1,800,000
annual visitors

up to a **30 minute**
delay

Figure 12: Hot Spot Destinations, July 2019, per the RTP

Pope to Baldwin Segment

Defining Elements

This segment serves as the southern gateway to recreation destinations along SR 89 to the north. The roadway transitions from five-lanes to two-lanes near the intersection with West Way. Federal lands flank the roadway, providing access to beaches, trails, equestrian facilities, historic and interpretive sites, a restaurant, lodging, and more.

The popular recreation segment has multiple concessionaires operating on LTBMU lands with a visitor center and a historic site. Beach access and camping are top recreation activities.

Visitor Activities

Recreation sites include:

- Pope Beach
- Camp Richardson Resort (note that Camp Richardson Marina is a separate, private facility)
- Camp Richardson Corral
- Tallac Historic Site
- Fallen Leaf Campground
- Kiva Picnic Area
- Kiva Point
- Taylor Creek Visitor Center
- Taylor Creek SnoPark
- Mt. Tallac Trailhead
- Baldwin Beach
- Desolation Wilderness Access

POPE TO BALDWIN SEGMENT | KEY ISSUES

Challenges within the Pope to Baldwin Segment are associated with the demand for beach access and high levels of pedestrian activity along the highway. Key issues to be addressed through the CMP include:

- Traffic congests, especially near the SR 89/Jameson Beach Road and the SR 89/Pope Beach Road intersections, as visitors arrive to beach facilities and as drivers stop for pedestrians.
- Parking along the highway creates traffic congestion as with drivers turn around and search for shoulder parking.
- The queue into the Eagle's Nest Campground spills onto the highway when many campers arrive in a short period of time.
- Multiple ingresses and egresses off SR 89 serve individual recreation areas with few off-highway vehicular linkages between sites.
- Lack of dedicated transit infrastructure which would allow transit to bypass congested areas.
- Gaps in the multi-use trail network to connect to some of the recreation sites.
- Use of unimproved Fallen Leaf road as a bypass.
- Special events in the corridor are sources of significant traffic, create additional demand for parking, and can impact traffic flow.
- Some uses have created unintended congestion due to pedestrians crossing the highway. This has prompted the need to reassess vehicular and pedestrian patterns and the locations of uses such as the ice cream shop and bike rental.



The beaches of Camp Richardson are a major summer recreation destination.

Emerald Bay Segment

The Emerald Bay Segment extends from Baldwin Beach Road, wraps around Emerald Bay, and includes D.L. Bliss State Park.

Defining Elements

Emerald Bay, one of California's 36 National Natural Landmark sites, is one of Lake Tahoe's most popular and photographed locations and is the corridor's most heavily used segment. In addition to numerous summer recreation activities, winter recreation in the segment includes backcountry skiing and site seeing. The Lake Tahoe Visitor Authority's 2015 Visitor Profile Study reported that 7 percent of summer visitors and 5 percent of fall visitors chose Tahoe South as their destination because of access to Emerald Bay. The North Lake Tahoe Resort Association's Visitor Research from the summer of 2014 found that 47 percent of survey respondents indicated spending time at Emerald Bay during their visit. This data reinforces the importance of Emerald Bay as a year-round destination for visitors.

D.L. Bliss State Park and Emerald Bay State Park neighbor each other. The adjacency means that although Emerald Bay may receive the majority of visitors, the impacts of the visitation are also felt at D.L. Bliss. Parking at D.L. Bliss also fills quickly on a peak summer day. The two state parks are connected by the Rubicon Trail, which can be a recreation destination in and of itself. Hikers can either start to the north at the D.L. Bliss Rubicon Trailhead or to the south at the Emerald Bay Rubicon Trailhead near Eagle Point Campground. The 7.3-mile trail wraps around the edge of Lake Tahoe's cliffs and coves, has pristine views of the lake and the bay, and provides access to Vikingsholm.

Extending north from the Pope to Baldwin Segment, the two-lane highway climbs and winds its way through a series of switchbacks before it traverses the ridge line between Cascade Lake and Emerald Bay. The hairpin turns, narrow profile, steep adjacent slopes, magnificent views, and high levels of visitor activity slow motorists. The tight turns limit the size of vehicles that can reach Emerald Bay from the south. For example, large tour buses cannot navigate the turns and Caltrans designates the highway as a "KPRA (King Pin to Real Axle) Advisory" Route. Trucks that have more than 30 feet between the king pin and rear axles are not advised. The steep roadway and curves also restrict the type of transit vehicles that can serve this segment.

KEY ISSUES

Challenges within the Emerald Bay Segment are tied to the site's popularity and the variety of activities which range from a quick photo, short day hikes, rock climbing, beach access, and overnight backcountry access. Visitor demand during peak season exceeds off-highway parking capacity, resulting in significant roadside parking and pedestrians walking in and along the highway. Key issues to address include:

- Over 500 cars parking along the highway on a peak summer day create traffic congestion as drivers search for shoulder parking.
- High volumes of pedestrians walk along and in the roadway.
- Narrow roadway design with steep shoulders and hairpin turns impact transit access.
- Lack of avalanche control impacts year-round access for emergency responders and residents.
- Off-highway parking areas are closed in the winter and a part of the off-season and snow is not removed. Therefore, people park along the highway shoulder for access to backcountry skiing.
- Lack of designated facilities for transit pull-offs.
- Lack of shared-use path facilities for off-highway bicycle and pedestrian circulation and access.
- High volumes of visitors with limited facilities, funding, and staff resources.
- Difficulty enforcing no-parking areas. Enforcement of illegal roadside parking is constrained by lack of funding, consistent strategies, technology, ticket pricing, and operational requirements (such as an officer being present to tow a ticketed vehicle).
- A need for wildlife crossings to be assessed and accommodated for, especially at the viaduct.
- Stormwater impacts from vehicles parking on the viaduct and other shoulder areas.
- Physical constraints of the area. The viaduct and Vikingsholm parking area have subsiding soils which require creative engineering. The need for improvements also provides an opportunity to address multiple corridor issues.
- Lack of technology infrastructure to implement new strategies for parking management, transit, and enforcement.

Visitor Activities

Although the majority of the segment is comprised of public lands, there are areas of private lands around Cascade Lake and Cascade Road. Recreation residence tracts are on some LTBMU lands in Emerald Bay and in Spring Creek.

The segment is the most visited in the corridor with a range of user activities that require different management strategies. Public lands in this segment are primarily managed by the LTBMU and by California State Parks (CSP). LTBMU lands include facilities that support sightseeing, hiking, beach-going, boating, backpacking, and camping.

Key recreation sites include:

- Eagle Point Campground
- Inspiration Point Vista
- Bayview Campground
- Bayview Trailhead (day hikes and wilderness access)
- Eagle Falls Trailhead (day hikes and wilderness access)
- Emerald Bay State Park
- Emerald Bay Boat Camp
- Vikingsholm
- Fannette Island
- D.L. Bliss State Park
- D.L. Bliss Campground
- Rubicon Trail
- Beach areas in Emerald Bay State Park and D.L. Bliss State Park



Emerald Bay hosts a variety of summer and winter recreation activities from sightseeing to backcountry overnight camping and skiing.

Rubicon Bay Segment

The Rubicon Bay Segment extends from D.L. Bliss State Park to just south of Meeks Bay. It includes the longest lakefront section of contiguous privately-owned residential lands within the corridor.

Defining Elements

Rubicon Bay, also known as Tahoe's Gold Coast, is home to lakefront and mountainside residential properties. The highway travels north from D.L. Bliss State Park toward Meeks Bay. Private lands border the Caltrans right-of-way for the majority of the segment. Forest Service and California Tahoe Conservancy lands are interspersed in the neighborhoods and LTBMU lands are located upland of the residential areas. The proximity of public lands with recreation opportunities near the highway prompts the need to address access needs for skiing, hiking, biking, and bouldering.

The highway and adjacent lands have relatively gentle grades around the Four Ring Road properties. The road grades steepen as it enters Rubicon Bay and creates a bench between the lakefront properties to the east and upland properties to the west. The terrain slopes away from the highway to the east and the west. Therefore, neighborhood roads intersecting with SR 89 typically have grades steeper than 5 percent.

There are few informal pull-offs and shoulder parking areas throughout this segment. This is due in large part to the narrow shoulders, adjacent private lands that slope away from the highway, and the lack of direct access to public recreation sites.

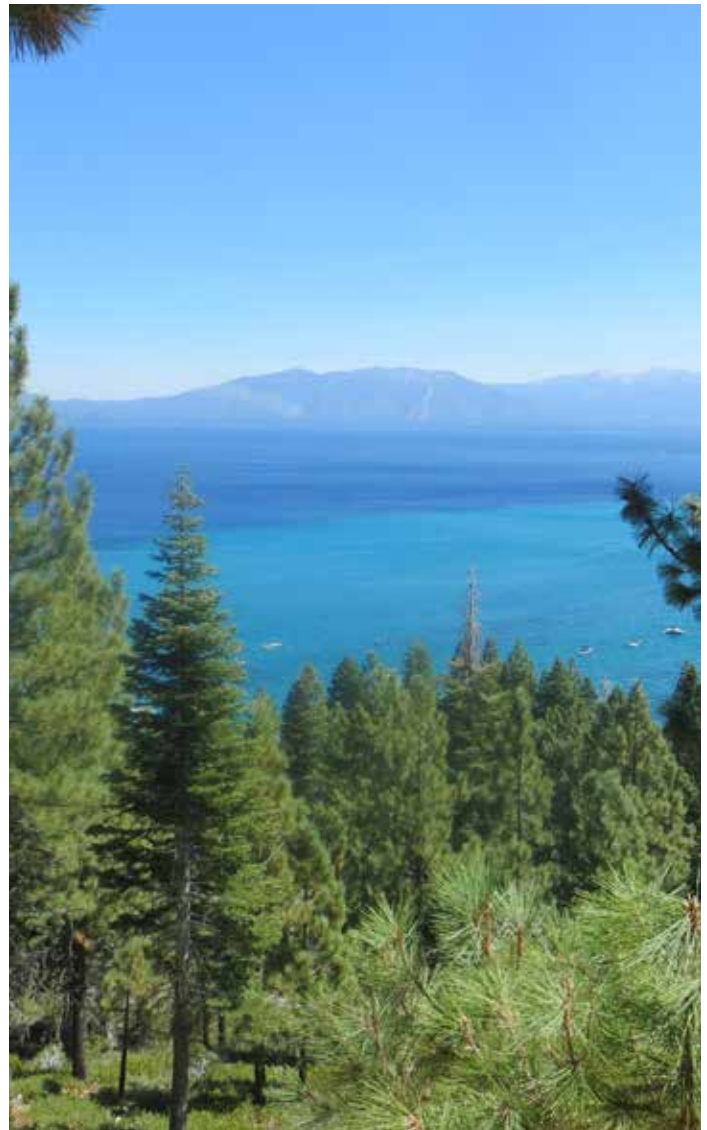
Visitor Activities

This segment is characterized by the high percentage of private lands bordering the highway. There is no public beach access. Upland trails are accessed through the neighborhoods or highway turnouts, but no formal trails or trailhead facilities are present. Trails are primarily intended to be accessed by walking or biking from the resident neighborhoods. Backcountry access is primarily from parking in highway turnouts.

KEY ISSUES

The CMP seeks to minimize visitor impacts to residential areas while providing dedicated active transportation facilities to allow people to walk or bike to recreation destinations in the adjacent Meeks Bay and Emerald Bay segments. Key issues to be addressed include:

- Lack of a shared-use path to connect people to recreation areas by an off-highway bike path.
- Lack of broadband.
- Need for trail and backcountry access in winter and summer.
- Lack of consistent or reliable transit connectivity.



Scenic views are provided along the LTBMU old roadbed.

Meeks Bay Segment

The Meeks Bay Segment includes the highway corridor as it wraps around Meeks Bay from south to north.

Defining Elements

SR 89 curves around Meeks Bay Resort and Campground. Meeks Bay Resort and Campground are on Forest Service lands with residential areas located to the north and south. LTBMU owns and manages the public lands in the Meeks Bay Segment. The Washoe Tribe operates Meeks Bay Resort Facilities and a concessionaire operates the campground. Meeks Meadow has tribal cultural and ecological function opportunities. There is an existing, non-operational marina. The Meeks Bay Restoration Project is underway to determine the future of the marina and planning for environmental restoration and site improvements.

During the summer, pedestrians often cross the highway as they walk from their cars parked along the highway to the beaches and recreation areas to the west. Because the road bends around the recreation site, pedestrians often have short sight distance to see oncoming traffic. The posted speed limit is 40 miles per hour which can create a conflict with pedestrians and the recreation activity during the busy summer months.

Visitor Activities

Meeks Bay trailhead is located on the west side of SR 89. The dirt parking area provides access to Lake Genevieve and Desolation Wilderness. It is a popular trailhead in the summer and winter for trail and recreation access.

Recreation activities in the summer include the following:

- Visiting the beach and swimming
- Camping
- Biking
- Boating
- Hiking
- Picnicking

KEY ISSUES

Although the Meeks Bay Segment does not have the traffic congestion and high volumes of visitation seen at other recreation sites in the corridor, there is opportunity for improvement. As visitation to Lake Tahoe increases, the pressures currently affecting the Meeks Bay area could increase. Key issues to be addressed include:

- The need to continue the Tahoe Trail and connect it to Rubicon Bay neighborhoods and other recreation destinations to the south.
- Lack of pedestrian crossing facilities to cross SR 89.
- Vehicles traveling at speeds not conducive for pedestrian crossings and volumes during peak season and roadway curves with short sight distance.
- Unmanaged roadside parking and unorganized trailhead parking.
- The need for winter access.
- Cultural access for the Washoe Tribe.
- Private lands to the north and south of Meeks Bay Resort and Campground make connectivity of trails and other features difficult.



Meeks Bay Resort has opportunities for water activities, camping, picnicking, and overnight lodging.

Sugar Pine Point Segment

The Sugar Pine Point Segment extends from the northern edge of Meeks Bay to the Placer County/El Dorado County line in Tahoma and includes Sugar Pine Point State Park. The state park provides an important recreation access for locals.

Defining Elements

This segment is the northern gateway to the recreation corridor to the south. The highway is bordered by both residential and public lands. Small neighborhoods are located north of Meeks Bay. Tahoma, a census designated place, includes residential and small commercial areas in both El Dorado County and Placer County. The West Shore Trail (or Tahoe Trail) extends from the Placer County line south to Meeks Bay. Within this segment, the shared-use path mostly parallels the roadway.

Visitor Activities

California State Parks is the primary public land manager within the segment. Additional public lands are owned and managed by the LTBMU and the Conservancy. Private lands border most of the highway which provides access to public recreation areas. Sugar Pine Point State Park does not see the visitor volumes associated with Emerald Bay, but visitation continues to increase.

Tahoma and Homewood areas create a northern gateway to the corridor and offer a small number of food and beverage opportunities. These are the last commercial areas before a traveler heads south through the recreation corridor. Most of the other food and beverage offerings in the corridor, such as those at Meeks Bay Resort and Camp Richardson Resort, are provided as part of concessionaire facilities on public lands.

Sugar Pine Point State Park provides opportunities to hike, swim, fish, camp, and explore a nature center and historic site. In the winter, cross-country skiing is available. The park also rents facilities for special events. Key recreation sites in the segment include:

- Sugar Pine Point State Park
- Sugar Pine Point Campground
- Beach areas in Sugar Pine Point State Park
- Hellman-Ehrman Estate picnic area, beach, and pier

Additional recreation sites, such as Homewood Resort, are located north of the corridor in Placer County and are considered as part of the broader planning context.

KEY ISSUES

The Sugar Pine Point Segment includes a mix of both residential development and public recreation areas, including Sugar Pine Point State Park. Although the segment does not have the traffic congestion and high volumes of visitation seen at other recreation sites in the corridor, there is opportunity for improvement. As visitation to Lake Tahoe increases, the pressures currently affecting the Sugar Pine Point State Park could increase. Key issues to be addressed include:

- Roadside parking in Tahoma, which is north of the study area, creates congestion for the corridor to the north.
- Visitors to the State Park often park along the highway and cross the highway to avoid an entry fee.
- Lack of a formal transit pull-off or turnaround complicates the operation of existing transit routes.
- Lack of vehicular turnouts and turnarounds to facilitate emergency access and evacuation.



Hellman-Erhman Mansion, a historic building called Pine Lodge, establishes a strong cultural sense of place for the state park.

DESIRED CONDITIONS

Cooperative management of the corridor requires land managers and agencies to agree to a common set of goals and objectives for what they want to achieve as they address the issues associated with visitor travel demands. In 2018-2019, discussions with land managers revealed common concerns that the level of visitation exceeds the capacity that the infrastructure and staffing levels are able to support in order to avoid undesirable impacts to the corridor's natural and cultural resources and resident's quality of life.

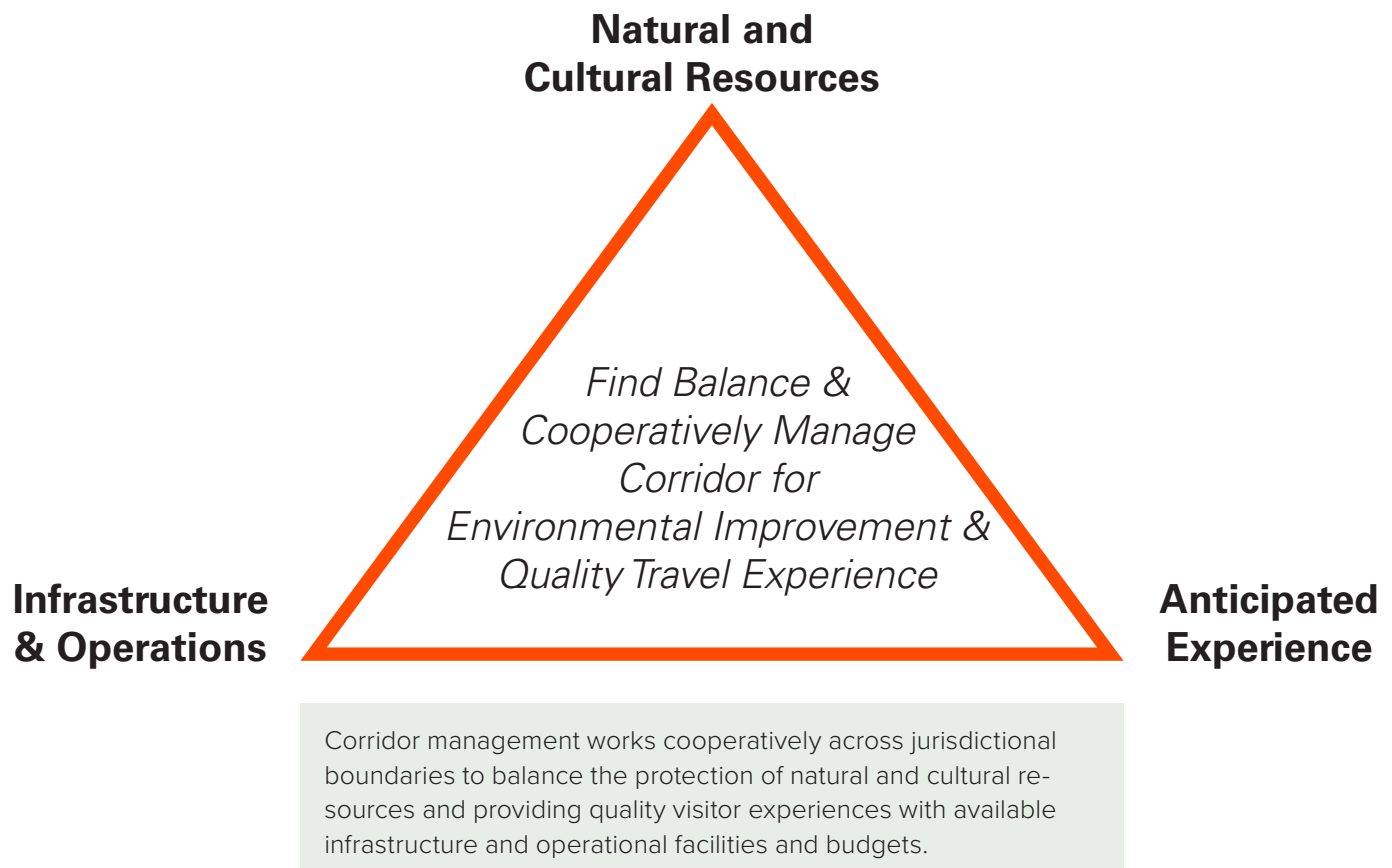
Managers of public lands strive to manage visitor access and recreation use while protecting natural and cultural resources. This process is inherently complex and can be further challenged with the quantity and variety of facilities and limited funding.

A balance is needed between three components in order for land managers to plan for and manage capacity and use levels across jurisdictional boundaries:

- anticipated visitor experience (solitary to increased interactions),
- natural and cultural resource protection, and
- available infrastructure facilities and budget for staffing and management.

Striking the balance requires adaptive management to establish the desired conditions for each element and to actively monitor and review data to adjust strategies.

Overall, the desired conditions for the SR 89 Recreation Corridor require an increase in operational capacity to effectively administer visitor management strategies and reduce impacts on natural and cultural resources. It is recognized that the visitation levels experienced during 2018 and 2019 are not sustainable without more coordinated management approaches that control how people arrive to recreation destinations. The desire is for an even distribution of visitors throughout the day and a more organized transportation approach which eliminates the chaos caused from visitors parking and walking along the highway.



Goals

The following six goals and corresponding objectives have been set for the corridor. These goals were also used to evaluate alternatives and concepts.

Provide a Quality Travel Experience for All.

Create a variety of easy, flexible, and enjoyable ways for visitors and residents to plan for, arrive to, experience, and depart the corridor and recreation sites. Recognize that visitors refers to anyone (both local and non-local) recreating in the corridor.

Objectives

- Manage visitation levels to align with natural, physical, social, and operational resources.
- Manage and distribute visitation across time and place to smooth peak periods.
- Use technology and marketing to increase visitors' and residents' confidence of a "known" or expected high-quality travel experience.
- Provide equitable access to recreation destinations, ensure access for underserved populations.
- Manage congestion and access to meet resident's travel needs.
- Remain sensitive to the cultural resources and traditions of the Washoe Tribe.
- Allow for year-round access to the variety of desired recreation experiences while balancing the need for resource protection.
- Provide a seamless travel experience that extends from pre-trip planning throughout the visitor trip.

Improve the Environment. Enhance the multi-modal transportation system and implement roadway improvements to manage congestion, reduce VMT and greenhouse gas (GHG) emissions, improve the clarity of Lake Tahoe, protect cultural resources, and enhance wildlife connectivity.

Objectives

- Balance congestion management to stabilize traffic flow and reduce idling and delays while also encouraging users to shift to alternative modes of transportation.
- Improve Lake clarity by reducing the amount of fine sediments reaching Lake Tahoe.
- Enhance wildlife connectivity and minimize impacts to habitat areas.
- Protect habitat for native flora and fauna from degradation.
- Protect cultural resources from overuse.
- Restore and manage historical resources.
- Celebrate Washoe cultural heritage.
- Reduce the risk of wildfire.



The Pope-Baldwin Bicycle Trail connects the neighborhoods south of the corridor to recreation destinations.

Advance Safety. Enhance facilities and utilize management strategies that reduce the potential for traffic incidents and enhance emergency access and evacuation routes.

Objectives

- Minimize conflicts between motorists, pedestrians, and cyclists.
- Address roadway design and management strategies that prevent year-round vehicle and emergency response access through Emerald Bay.
- Use ITS and create the infrastructure for technology to assist with emergency response by allowing visitors to connect and communicate with first responders.
- Provide turnouts to facilitate emergency access and response.
- Coordinate corridor enhancements to improve emergency response access to both upland and lakeward lands.
- Improve traffic flow to address evacuation needs, allow for forest fuels management, and minimize delays for emergency response.

Create Comfortable, Connected, and Convenient Transit and Trail Systems. Expand and manage the multi-modal transportation system to effectively improve access for all users to manage congestion, encourage walking and biking, and provide transit options.

Objectives

- Create a separated, shared use path to promote active transportation, disperse recreation, complete the Tahoe Trail through the corridor, provide a high-quality user experience, and serve a broad spectrum of users.
- Increase transit mode share and reduce the number of single occupancy vehicle trips entering the corridor.
- Provide frequent and convenient transit service that accommodated recreation gear and balances visitation demands with operational constraints.
- Respond to seasonal travel demands and maximize system efficiencies.
- Provide a coordinated transit system that connects with regional park once strategies.
- Plan for emerging e-bike technology and shared mobility services.



Transit that is frequent and convenient and can accommodate recreation gear has an opportunity to reduce the environmental and management impacts associated with large numbers of people using a personal vehicle to recreate in the corridor.

Fund the Vision. Secure sustainable funding to build, operate, maintain, and renew a multi-modal transportation system that transforms the vision from concept to reality.

Objectives

- Establish partnerships to increase the breadth of funding opportunities and sources.
- Develop sustainable funding sources and agreements that can be used to operate transit services and maintain infrastructure improvements.
- Explore new and innovative funding structures that allow for revenue generation to be reinvested into the corridor or to fund project implementation.

Set the Stage for Implementation, Maintenance, and Operations. Develop and identify the foundational roles and responsibilities, policies, and agreements needed to execute strategies and adaptively manage the corridor today and into the future.

Objectives

- Coordinate the planning and design of projects and group projects by geographic area for cost savings, appropriate sequencing, efficiencies in constructibility, and implementation, and reduced impacts to traffic flow during construction.
- Align with agency goals and desired conditions to support, enhance, and enable management decisions.
- Utilize partnerships to effectively and efficiently maintain, manage, and operate corridor enhancements, transit services, and supporting infrastructure.



The Tahoe Trail extension between Sugar Pine Point State Park and Meeks Bay demonstrates the progress that can be achieved by using partnerships and shared goals to develop multi-benefit projects in the corridor.

THE OPPORTUNITY

An analysis of corridor users and their travel patterns show that there is an opportunity to develop successful car-free strategies for arrival to corridor destinations.

Corridor Visitation

The majority of visitors to the SR 89 corridor are overnight visitors, meaning they stay in Tahoe at least one night. The LTCCP found that 90 percent of visitors in the corridor were overnight visitors. 2018 intercept survey results showed a similar breakdown: 89 percent overnight visitors and 11 percent day visitor.

Travel Patterns

In 2018, over 86 percent of corridor visitors responded to an intercept survey that they arrived to the corridor by car. In the Pope to Baldwin Segment, almost 10 percent use a bike to travel to the corridor since the Pope Baldwin Bike Path provides easy access from nearby homes and tourist accommodations. In the northern portion of the corridor, the recent extension of the West Shore Trail from Sugar Pine Point State Park south to Meeks Bay will allow more visitors a car-free option to reach the beaches of Meeks Bay Resort.

In 2018, LSC Transportation Consultants evaluated travel patterns. As part of an intercept survey and a windshield survey, travelers were asked from which direction they arrived to the corridor and to which direction they would leave. Results showed that the majority of recreation area users return via the direction they came. For example, 75 percent of Pope to Baldwin Segment respondents arrived to the corridor from the south and then returned to the south. Twenty-five percent of the segment's respondents indicated that they arrived from the north and would return to the north.

Similarly, at Eagle Falls 59 percent of respondents arrived to the corridor from the south and then returned to the south. Thirty-seven percent indicated that they arrived from the north and would return to the north.

This data indicates the potential success for transit services associated with park-n-ride/bike locations at the northern and southern ends of the corridor. Users would be able to hop on a shuttle to their recreation destination and return to the park-n-ride via the shuttle at the end of their activity. Connecting the park-n-ride/bike locations to mainline transit systems in South Lake Tahoe and North Lake Tahoe also allows people an opportunity to access the transit shuttles from their tourist accommodation or home without ever having to get in a car.

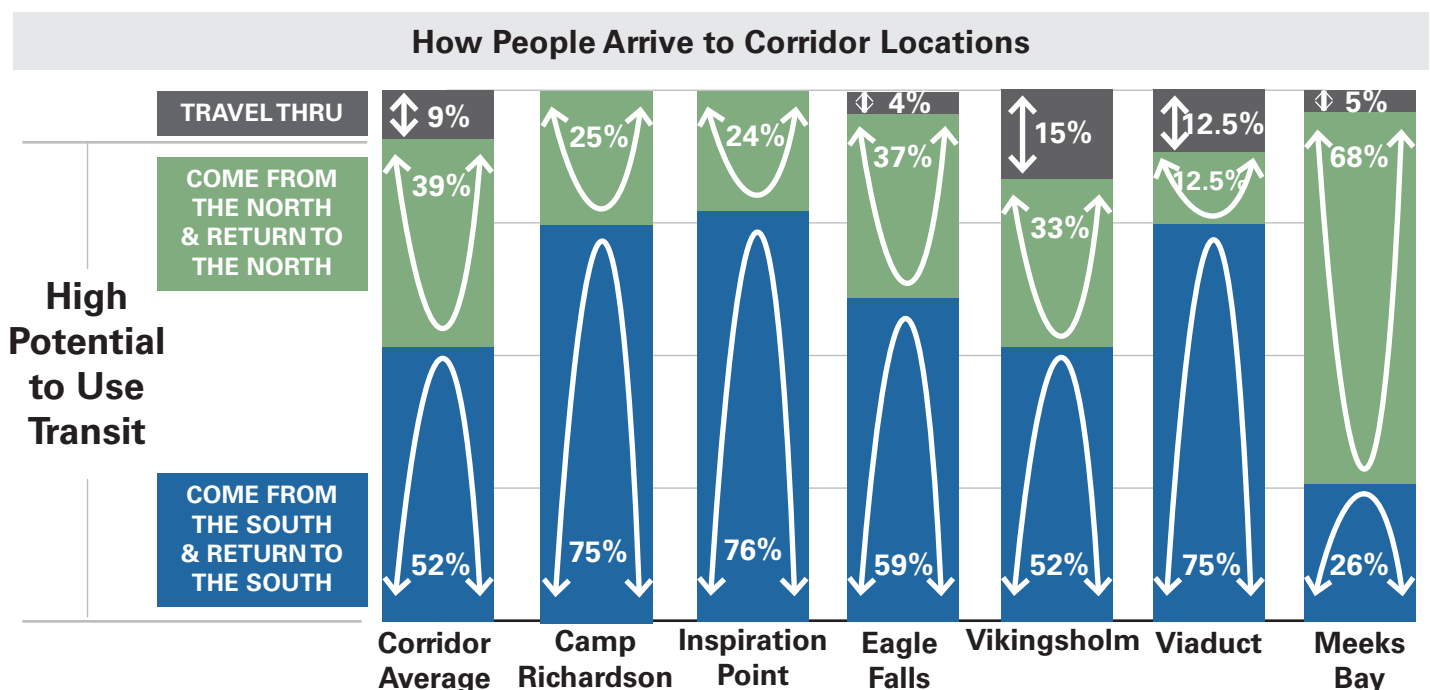


Figure 13: Corridor Travel Patterns Show that Park-n-Ride Transit Solutions are Viable

ANTICIPATED ENVIRONMENTAL GAINS

In 1982, TRPA adopted nine environmental threshold categories and 148 threshold standards which set environmental standards for the Lake Tahoe Basin and indirectly defined the capacity of the Region to accommodate additional land development.

There are nine threshold areas:

- Air Quality
- Water Quality
- Soil Conservation
- Vegetation
- Fisheries
- Wildlife
- Scenic Resources
- Noise
- Recreation

Implementation of CMP projects is anticipated to create environmental gains. Table 1 provides a brief indication of where significant gains might be realized in relation to TRPA thresholds. It is not intended to be a complete analysis, but it sets the stage for considering what the primary positive combined impacts of implementing the CMP may be.

Moving forward, individual projects will establish metrics by which progress can be tracked and success measured. These metrics will align with the TRPA thresholds and be coordinated with elements already being regularly evaluated.



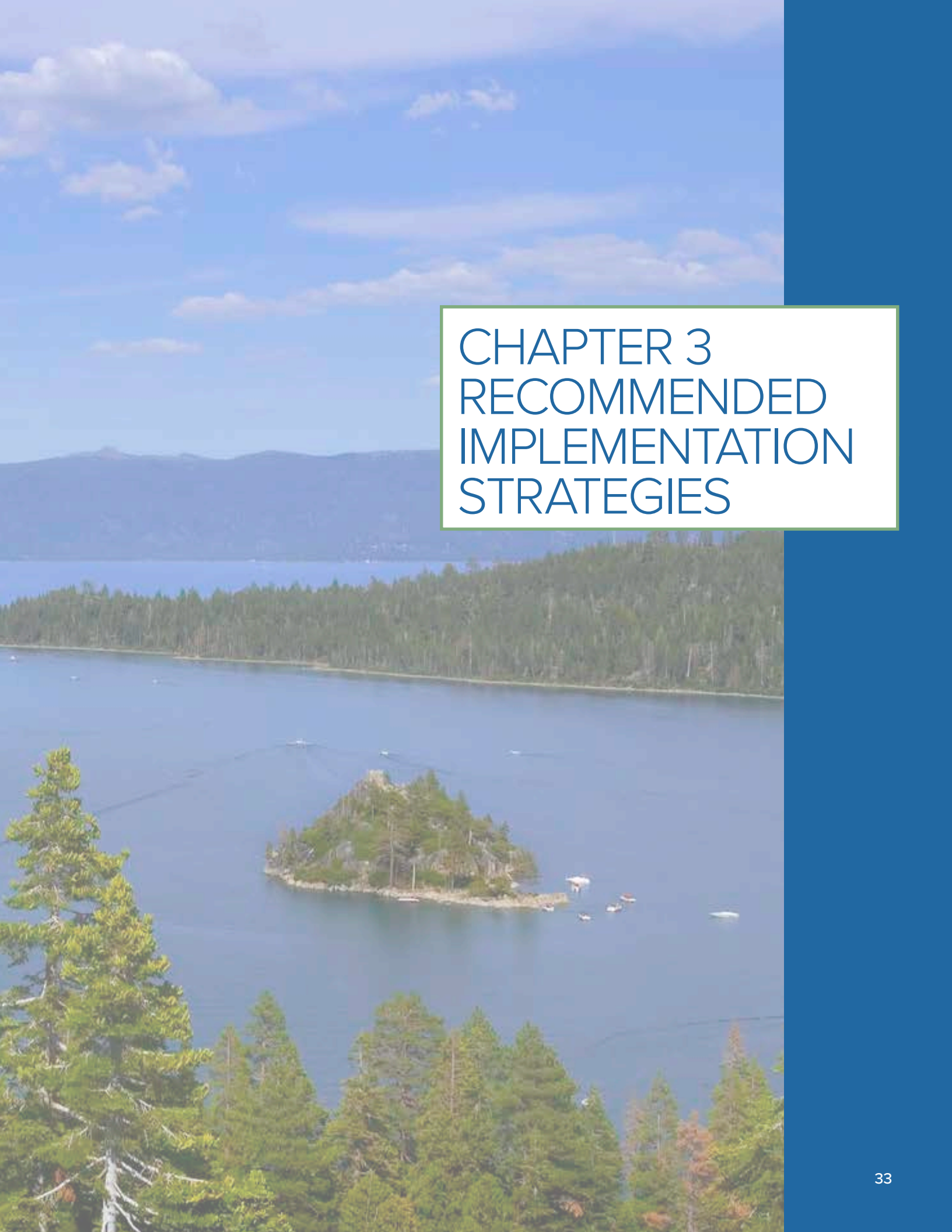
Emerald Bay is home to the most concentrated areas of active osprey nests around Lake Tahoe. It is also one of the most highly visited sites on the lake. Visitation management along the corridor should consider how strategies can also reduce human impacts on these special sites.

Photo by California State Parks

ANTICIPATED ENVIRONMENTAL GAINS	
TRPA Threshold	Description
Air Quality	<ul style="list-style-type: none"> Improved air quality by managing congestion through parking management strategies and providing transit can improve air quality. Reduced VMT by shifting use to transit and bicycling.
Water Quality	<ul style="list-style-type: none"> Reduced air pollution and the subsequent deposition of nitrogen and fine sediment by reducing private automobile use through improvements to public transit and alternative transportation modes. Maximized use of water quality mitigation funds for multi-benefit projects to support erosion control and stormwater pollution control projects. Reduced erosion from shoulder parking and unauthorized trails.
Soil Conservation	<ul style="list-style-type: none"> Restricting roadside parking and restoring disturbed areas will reduce erosion and benefit soil conservation.
Scenic Resources	<ul style="list-style-type: none"> Improved visual quality from both the roadway and from Lake Tahoe with relocated shoulder parking to off-highway areas. Unauthorized parking along the roadside blocks views to the lake and detracts from the scenic quality of scenic roadways. Improved visual quality with enhanced roadway aesthetics. Designing highway structures (walls, slope protection, revegetation, etc.) to use appropriate materials and colors can improve the visual quality of the roadway.
Wildlife	<ul style="list-style-type: none"> Enhanced connectivity of wildlife habitat areas by providing improved wildlife crossings, where appropriate, can prevent habitat degradation. Balancing visitor levels with operational budgets for management and protection of natural and cultural resources can prevent habitat degradation and improve habitat for special interest species.
Fisheries	<ul style="list-style-type: none"> Improved fish habitat and stream flows by coordinating projects to support these goals. Bridge designs should enhance stream flows and reduce unnatural blockages for fish movement, where appropriate.
Vegetation Preservation	<ul style="list-style-type: none"> Improved access supports implementation and achievement of forest treatment programs and wetland and meadow conservation. Reduced risk of wildfire by under-grounding electric utilities and improving emergency access to increase the ability for responders to quickly address wildfires.
Recreation	<ul style="list-style-type: none"> Increased mileage of new trails developed and reduction in trail gaps. Increased connectivity of non-motorized trails to recreation sites. Increased transit service to recreation sites. Increased outdoor recreation opportunities able to be accessed by bike or transit from tourist accommodations and residential areas. Increased trail or transit connections between off-site parking areas and recreation sites. Increased number of people who know how to access recreation sites without using a personal vehicle. Improved quality of experience for scenic drivers. Improved overall quality of experience as the experience of getting to the recreation destination is improved. Improved overall experience by maintaining the variety of experiences and setting the appropriate expectation for the type of experience for recreation site and activity.
Noise	<ul style="list-style-type: none"> Vehicular travel is one of the predominant noise sources in the basin. Based on available status and trend information, the 2015 Threshold Evaluation Report stated that existing programs by LTBMU, TRPA, and CHP are “mostly effective in reducing noise in rural outdoor recreation areas”. Reducing private automobile use and improving public transit and access to bike trails will further reduce noise impacts from personal vehicles.

Table 1: Anticipated Gains in TRPA Thresholds

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CHAPTER 3 RECOMMENDED IMPLEMENTATION STRATEGIES



Taylor Creek, in the Pope to Baldwin Segment, captures the beauty of the region's marshes and their critical role in preserving lake clarity.

CORRIDOR TOOLKIT

This chapter summarizes the tools and strategies recommended for implementation throughout the corridor and within individual corridor segments. It connects strategies to existing and potential challenges facing the corridor.

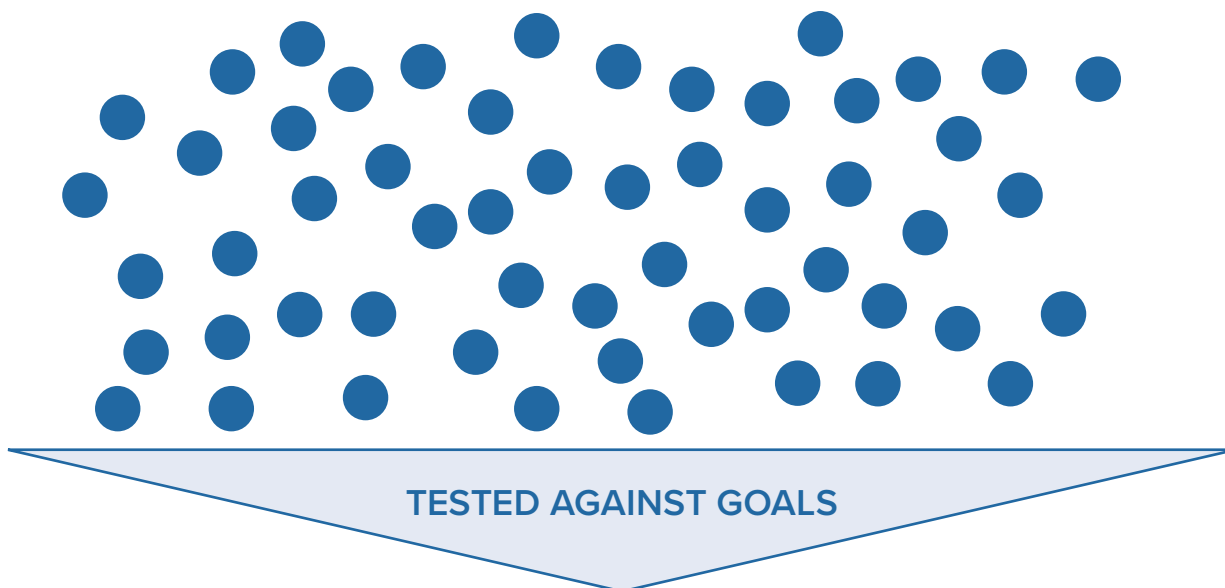
A number of management tools exist for land managers and agencies to consider as they address challenges associated with recreation access. Ideas were shared by stakeholders and members of the public. These concepts were tested against goals to determine viability for success.

Evaluation Criteria

The following questions were used to qualitatively assess potential tools and strategies. The criteria considered how well a strategy could achieve corridor goals while also recognizing funding and operational limitations and regulatory conditions.

1. To what extent does the strategy allow for improved visitor experience and recreation access without increasing congestion and delay on the highway?
2. To what extent does the strategy reduce the number of vehicles accessing recreation sites?
3. To what extent does the strategy provide a viable alternative to parking along the side of the road?
4. To what extent does the strategy manage visitation levels in a way that aligns with the desired conditions for natural, cultural, physical, social, and operational resources?
5. To what extent does the strategy manage congestion?
6. To what extent does the strategy improve visual quality?
7. To what extent does the strategy improve environmental quality and reduce the amount of fine sediments reaching Lake Tahoe?
8. To what extent does the strategy improve emergency access and response?
9. To what extent does the strategy reduce conflicts among vehicles and bicyclists and pedestrians?
10. To what extent does the strategy equitably serve a broad range of users?
11. To what extent is the strategy supported by the public?
12. How likely is the strategy to be competitive for state or federal funding sources or create a sustainable funding stream?
13. Will improvements take a long time (low score) to complete or are they easy to implement (high score)?
14. To what extent does the strategy not significantly impact operational or maintenance budgets?
15. To what extent can the proposed project enhance the ability of partners to leverage funding sources, improve constructibility, reduce construction time, and provide cost savings.

CONCEPTS GENERATED BY STAKEHOLDERS & COMMUNITY INPUT



CORRIDORWIDE TOOLS & STRATEGIES

TRANSIT & SHUTTLE SERVICES

- Create recreation route shuttle
- Connect with mainline transit systems
- Incorporate water transit
- Frequent and convenient
- Focus on shifting visitor behavior in the Pope to Baldwin and Emerald Bay Segments

PARKING MANAGEMENT & ENFORCEMENT

- Restrict and improve ability to enforce no roadside parking
- Leverage paid parking to fund transit and the operations and maintenance of new trail and parking facilities
- Utilize strategies such as reservations, congestion-based pricing, time limits, & progressive pricing
- Provide access to parking lots year-round

TECHNOLOGY SYSTEMS & INFORMATION ACCESS

- Provide real-time travel information
- Coordinate with regional and resident marketing for trip planning
- Create a sense of entry to the corridor
- Provide a consistent and coordinated approach to parking management

ACTIVE TRANSPORTATION

- Connect Tahoe Trail from Spring Creek Road to Meeks Bay
- Increase biking to recreation destinations
- Reduce congestion from pedestrian crossings
- Minimize at-grade pedestrian and bike crossings

INFRASTRUCTURE IMPROVEMENTS

- Address road design and operations to facilitate year-round access through Emerald Bay
- Improve technology infrastructure
- Improve wildlife crossings and address
- Provide emergency pull-offs
- Improve emergency response access facilities

Interconnected Strategies

Resource, recreation, and operational issues face the corridor. The issues are interrelated and the strategies available to address them are also connected. For example, restricting/relocating roadside parking areas without increasing enforcement, increasing fines, installing barriers, and providing alternative methods for more managed access can result in pushing the roadside parking to alternate locations and frustrated visitors.

The CMP recommends an integrated approach for projects and operational strategies. Tools are used in coordination with one another rather than independently. Results should be monitored and strategies adjusted to achieve a more managed and car-free experience where the impacts of visitor use are reduced.

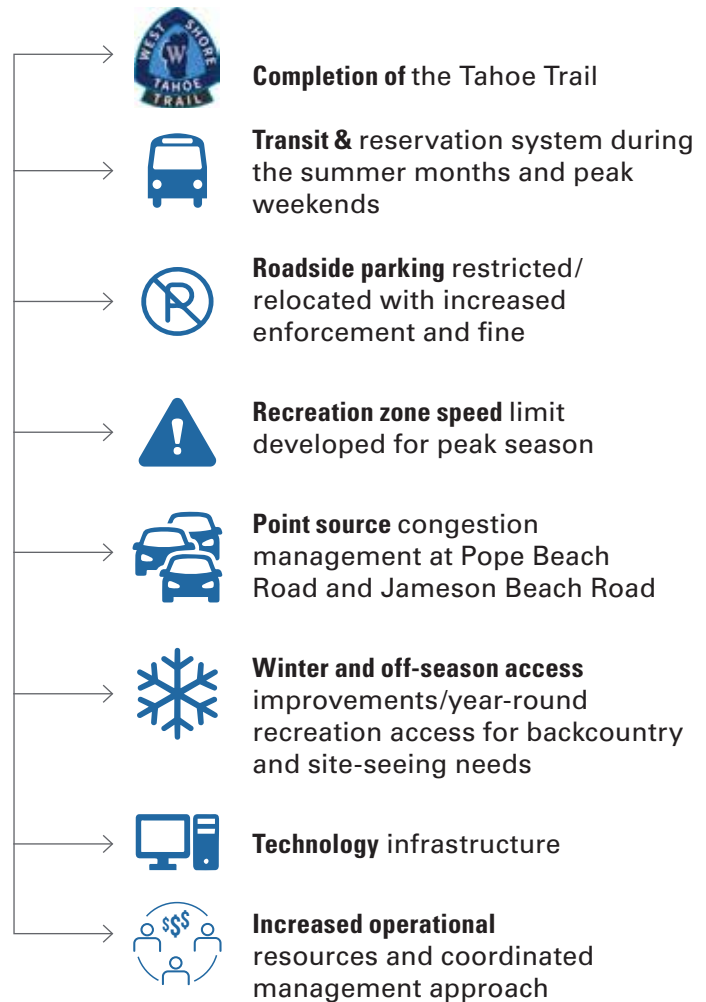


An interconnected set of management tools are used in parallel to achieve a consistent set of recommendations throughout the recreation corridor.

CORRIDOR RECOMMENDATIONS

Eight overarching and interconnected recommendations are established for the overall corridor and specific corridor segments. These recommendations are intended to be used together to realize the corridor vision of a balanced and managed multi-modal corridor experience. The following pages summarize the eight recommendations.

Corridor Recommendations





Completion of the Tahoe Trail around the West Shore

Within the corridor, the Class I, separated shared-use path system in the corridor ends at Spring Creek Road in the south and at Meeks Bay Resort in the north. Completion of the trail has the potential to provide a beautiful way for people to reach recreation destinations along the corridor without needing a car. Similar to the East Shore Tahoe Trail, the West Shore Tahoe Trail will also be a recreation opportunity in and of itself. It provides another benefit by offering a place for people to walk between recreation areas without walking on the highway.

Continued collaboration with stakeholders, including land managers and homeowners, can assess the feasibility of various alignments which can then move forward in phases to completion. The trail completion through the SR 89 Recreation Corridor will be a spectacular section of the Tahoe Trail's route around Lake Tahoe.



Figure 14: Conceptual Completion of the Tahoe Trail



Corridor Transit and Reservation System for Summer and Peak Weekends

During the peak summer months, a coordinated transit and parking management system will offer a viable alternative for access to corridor destinations. The framework of the recommended system is discussed in greater detail in Chapter 5 and will require land managers, agencies, and vendors to cooperatively manage parking in a consistent and collaborative approach. The transit framework incorporates a shuttle system and water taxi service to reduce the use of personal vehicles in the corridor and develop a system to manage visitation volumes and distribution. Water taxis should accommodate some bicycles so passengers can ride when they reach their destination. The approach also enhances the visitor experience by increasing equitable access on Lake Tahoe. For example, rental boats can be expensive and not everyone feels confident using a kayak or paddle board.

The transit framework can be expanded and used for recreation access during peak weekends. In particular, there is demand for winter backcountry access. A winter shuttle pilot was provided by the Tahoe Backcountry Alliance during 2019/2020. There is a desire to expand that service.

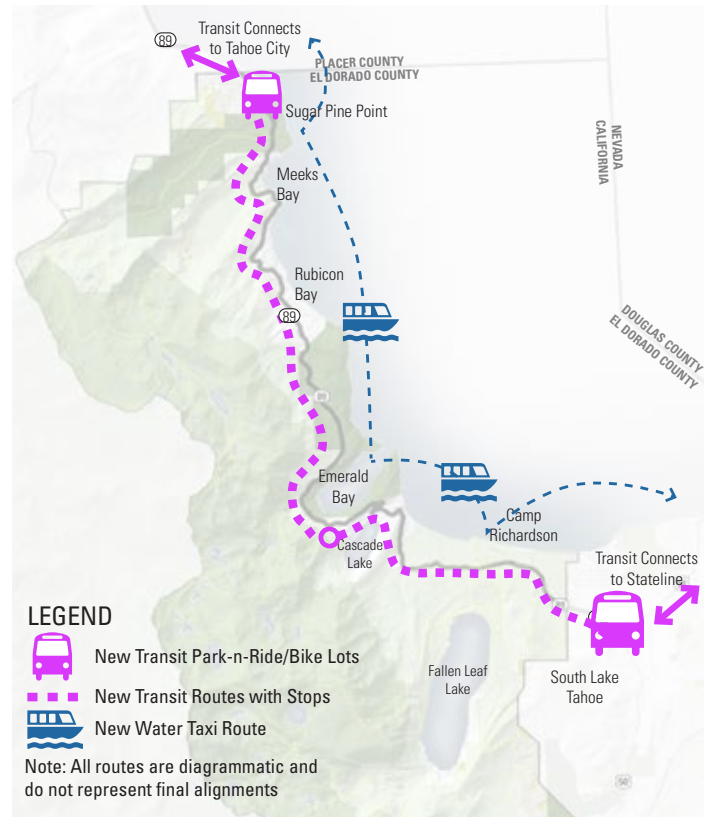


Figure 15: Conceptual Transit Framework for Summer season and Peak Weekends



Roadside Parking and Enforcement Recommendations

Shifting use patterns and managing visitation requires transit strategies be coupled with changes to roadside parking and the travel way. Parking along the roadside should be restricted when alternative access through transit and bike options are provided. Enforcement of no roadside parking can be enhanced through the use of barriers, utilizing technology, significantly increasing fines, and developing consistent zones or stretches where no roadside parking is allowed. Zones must be long enough that the parking is not pushed into nearby areas, such as residential zones. Increased fines will require approval at a state level. Visitation use associated with roadside parking is intended to be shifted to other modes of access such as transit and bike.

Parking areas for trail access should be organized and incorporated into the overall parking management strategy. Adaptive parking restrictions are needed to restrict roadside parking during peak seasons, but may allow for some parking during shoulder seasons and in select areas for trail access.



Figure 16: Priority Areas for Restricting Roadside Parking | Additional Areas to Be Restricted from Meeks Bay Past Sugar Pine Point State Park as Alternative Access is Provided



Recreation Zone Speed Limit During Peak Season

High volumes of pedestrians and bicycle activity occur in corridor recreation areas during the summer and on peak days during the winter. The speed limit through the corridor does not reflect the increased number of people walking or biking near the roadway. In similar areas, Nevada has the ability to implement a variable speed limit in recreation zones that can be activated during high use days. The strategy is akin to school zones where a reduced speed limit is put in place when appropriate. The recreation zone speed limit will require a change to California's vehicle code, but it offers a method for reducing the potential for traffic incidents and heightening driver's awareness of the need for reduced speed in certain locations.



Figure 17: Priority Areas for Implementing a Recreation Zone Speed Limit



Point Source Congestion Management at Pope Beach Road and Jameson Beach Road

Traffic flow through the Pope to Baldwin Segment is severely impeded by vehicles queued for entry into Pope Beach and by pedestrians crossing the highway at Jameson Beach Road. The delays caused by these queues reduces the desirability of transit use because the lack of a transit only bypass lane requires shuttles to wait in the same traffic.

Addressing the congestion requires a suite of coordinated strategies that can be implemented and monitored in phases. The desired conditions manage congestion while also incentivizing a shift from personal vehicles to transit or active transportation modes.

Recommendations include parking management strategies for all areas, including Pope Beach. Entry modifications to Pope Beach can reduce the likelihood of vehicles backing up onto the highway. Modifications should also be designed to prevent parking along Pope Beach Road. At Jameson Beach Road, the restriction of roadside parking is coordinated with potential land use shifts, modifications to the pedestrian crossing, and altering the crossing of the Pope Baldwin Bike Path to improve traffic flow. Additionally, creating an internal vehicular route can disperse visitation throughout the recreation segment and connect parking areas off the highway.

Additional detail for the strategies is provided in Items 17-19 of this chapter.

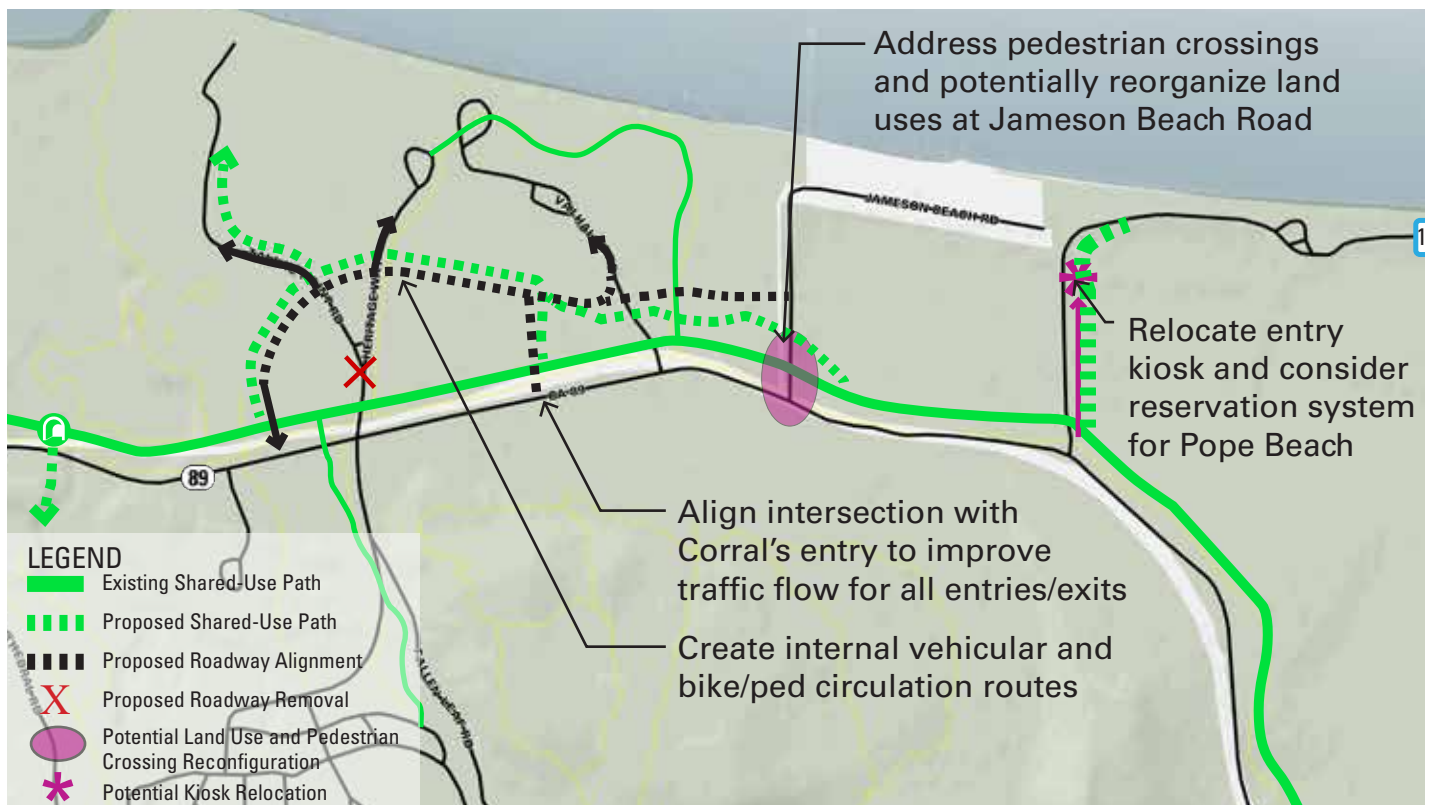


Figure 18: Conceptual Diagram of Point Source Congestion Strategies

Winter and Off-Season Access Improvements

Roadway design and management operations restrict year-round access (and emergency access) around Emerald Bay. The highway is not only used for access to recreation destinations, it also serves a vital role for emergency access along the west shore and for commuters traveling between the north and south shores for work. Avalanche risks can often trigger road closures. Additionally, the narrow road corridor along the ridgeline between Emerald Bay and Cascade Lake constrains transit operations, reduces opportunities to incorporate a Class I bicycle facility, and hampers emergency access. The tight switchbacks also pose a challenge.

A Project Study Report should evaluate the challenges and opportunities for roadway modifications and operational measures to manage potential avalanches and rockfall. These strategies are discussed in more detail in Items 8, 9, and 10. The Project Study Report should detail implementation projects to move forward while recognizing the overall desired conditions for corridor management and continued control of large trucks and tour buses in Emerald Bay.

There is demand for corridor recreation access both in the winter and off-seasons. Access to strategic off-highway

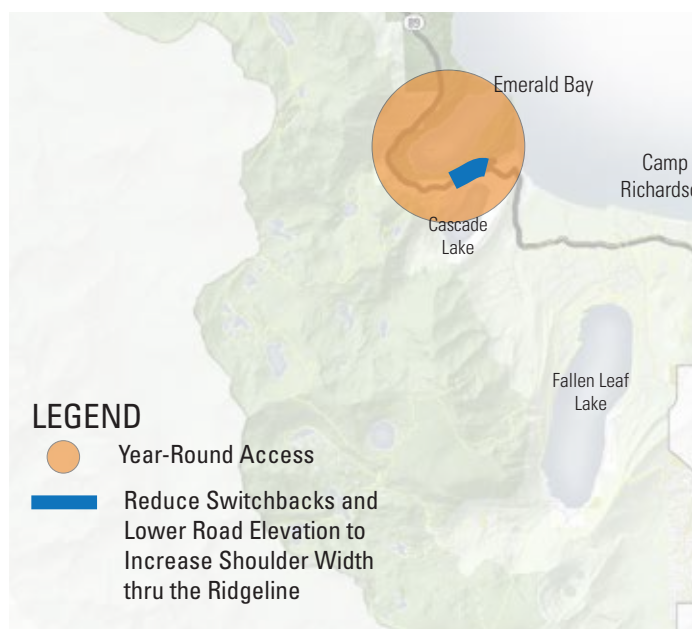


Figure 19: Conceptual Diagram for In-depth Evaluation of Year-round Access Opportunities

parking lots is needed for winter backcountry access. Demand for site-seeing in Emerald Bay is high throughout the year. Changes in snowpack conditions and warmer winters has increased the need to accommodate site-seeing access throughout the year and not just during the summer.

Technology Infrastructure Improvements

As discussed in Chapter 1, technology innovations can be used to manage and maintain the corridor. But access to cellular and fiber infrastructure hamper the ability to use these resources. Throughout the corridor, the gaps in technology access should be addressed. Every infrastructure project should consider opportunities to incorporate technology infrastructure as a goal. Co-location with existing utilities and with the Tahoe Trail should be evaluated. Technology applications and management systems should be consistent or compatible throughout the Basin to make the systems easy to use and access for visitors and residents. ITS should be used to communicate real-time information to visitors regarding corridor conditions, parking, and transit options. And the need for a traffic operations center to make ITS work should be addressed.

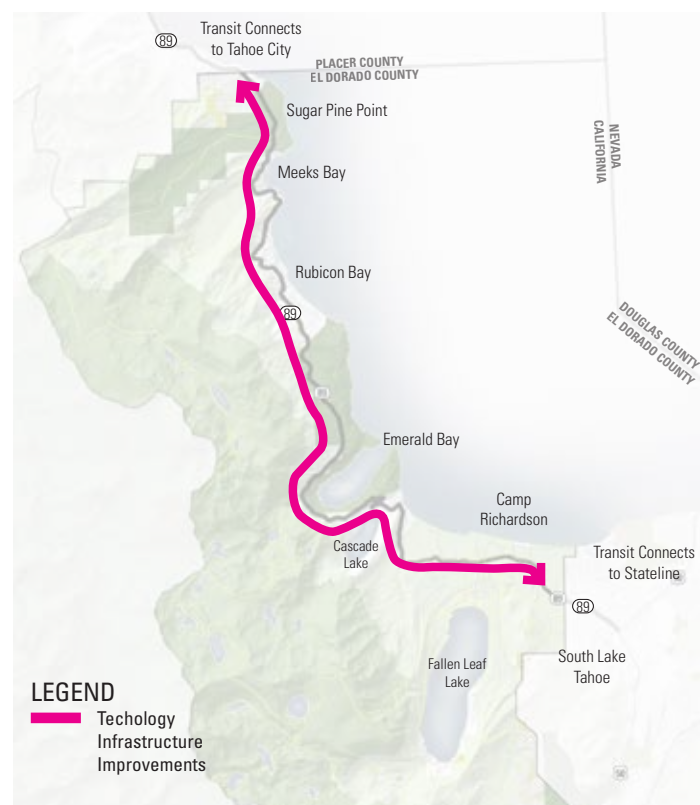


Figure 20: Priority Areas for Enhancing or Providing Technology Infrastructure



Increased Operational Resources and Coordination

Land managers and agencies have limited budgets and are asked to maximize the use of each dollar. Deferred maintenance and minimal staffing levels hamstringing the ability to increase management strategies because the limited resources are already fully allocated to address existing visitation levels and facility infrastructure. The CMP recognizes that increased operational and facility resources are needed to manage the corridor. Continued coordination between agencies to implement the recommended projects and strategies is required. As described in Item 26, an Executive Team and a Corridor Management Team should be developed along with a formalized agreement for collaboration, decision-making, and potential cross-jurisdictional roles and responsibilities. The goal is to continue to address challenges, seek solutions, and identify project champions. These items will be memorialized through an agreement upon completion of the CMP and initiation of the Tahoe Trail feasibility study.



CONNECTING STRATEGIES WITH ISSUES

The strategies detailed on the following pages connect the dots between the corridor's 28 key shared issues (listed below) and the set of strategies recommended to address the issues. The summary includes action steps, how success will be measured, potential project leads and partners, and a list of how the strategies relate to other recommendations. The correlated list of issues and strategies is also found as a table in the appendix.

Chapters 4 and 5 support this list by detailing the analysis and development of the travel framework for multi-modal access. Chapter 6 describes the series of specific projects along the corridor that are required to implement the strategies.

Item List

- | | | | |
|---|--|--|---|
| • Item 1 Gap in Tahoe Trail | • Item 9 Emerald Bay Road Design Restricts Transit | • Item 16 Traffic Congestion at Pope Beach Road and at Eagle's Nest Campground | • Item 22 Roadway is a Barrier for Wildlife Movement |
| • Item 2 Pedestrians in Highway | • Item 10 Lack of Year-Round Access Through Emerald Bay | • Item 17 Traffic Congestion at Jameson Beach Road | • Item 23 Overhead Powerlines Create a Fire Risk |
| • Item 3 Lack of Consistent Transit Service | • Item 11 Limited Areas for Emergency Response | • Item 18 Visitation is not Dispersed | • Item 24 Roadside Parking Degrades Effectiveness of Stormwater Features |
| • Item 4 Bus Stops & Turnarounds Needed in Emerald Bay | • Item 12 High Traffic Speeds Near High Volumes of Pedestrians | • Item 19 Pope to Baldwin Bike Path has High Use Volumes | • Item 25 Vikingsholm Parking Needs Repairs |
| • Item 5 Motorists Congest Roads when Searching for Parking | • Item 13 Limited Operations Budgets | • Item 20 Lack of Recreation Gateway, Visitor Info, & Consistent Wayfinding | • Item 26 Implementation is Tough and Needs Partnerships and Executive Buy-in |
| • Item 6 Visitation Surge Occurs at Peak Times | • Item 14 Lack of Piers and Operations to Support Water Taxi Service | • Item 21 Events Can Impact Congestion | • Item 27 Lack of Public/Private Partnerships |
| • Item 7 Overnight Users Need Access | • Item 15 Lack of Technology Infrastructure | | • Item 28 Climate Change |

ITEM 1 | GAP IN TAHOE TRAIL



DESCRIPTION

The Tahoe Trail ends at Spring Creek Road in the south and at Meeks Bay Resort in the north, leaving an approximate 11-mile gap in bicycle access to recreation destinations and through cyclists along the west shore of Lake Tahoe.

PROJECT LEAD(S) & KEY PARTNERS

- LTBMU
- CDPR
- TTD
- CALTRANS
- TRPA
- El Dorado County

ASSOCIATED STRATEGIES AND PROJECTS

- Item 2, Item 15, Item 23, Item 26
- Projects: CW-1.01, WS-2.01, WS-2.02, WS-2.03, WS-3-01, WS-4.01

STRATEGIES

- Complete a feasibility study for shared-use path alternatives along the west shore.
- Continue to work with residents, property owners, and land managers to develop the preferred alignment for the Tahoe Trail.
- Phase implementation of the remaining segments of the Tahoe Trail so that phases are constructed from destination to destination. For example, one phase of the construction could encompass the trail from the vista point east of Eagle Falls through the Vikingsholm parking and entrance area. This approach could leverage partnerships and improve connectivity. Other phases may be associated with the restoration project at Meeks Bay, the connection of Meeks Bay to D.L. Bliss, the connection of D.L. Bliss to Emerald Bay, and the connection to the existing trail at Spring Creek Road to Emerald Bay.

SUCCESS MEASUREMENT

- Tahoe Trail completion with no gaps along the West Shore.
- Miles of trail constructed.

ITEM 2 | PEDESTRIANS IN HIGHWAY



DESCRIPTION

High volumes of pedestrians walk along and in the roadway in heavily used areas such as the Pope to Baldwin and Emerald Bay Segments. 375 cars parked alongside the highway and the viaduct in Emerald Bay on an average busy summer day in 2018 forcing, pedestrians to walk in the roadway.

PROJECT LEAD(S) & KEY PARTNERS

- LTBMU
- TRPA
- CDPR
- CHP
- TTD
- EDC Sheriff
- CALTRANS

ASSOCIATED STRATEGIES AND PROJECTS

- Item 1, Item 3, Item 23, Item 26
- Projects: CW-1.01, WS-2.01, WS-2.02, WS-2.03

STRATEGIES

- Implement strategies associated with Item 1 and incorporate a walkway or shared-use path around Emerald Bay in coordination with and connected to off-highway parking lots.
- Implement strategies associated with Item 5 and restrict/relocate roadside parking.

SUCCESS MEASUREMENT

- Miles of sidewalk or Tahoe Trail developed around Emerald Bay offering a pathway off the highway for pedestrian use.
- Number of roadside parking spaces “relocated” or shifted to another mode.
- Reduction in traffic incidents.
- Decrease in emergency response times.
- Measurable reduction in congestion levels.
- Improved lake clarity.
- Number of pedestrian and bikes using new trail system.
- Number of miles of No Parking Zone implemented as alternative modes of transportation have shifted to organized parking, transit, and trail systems.

ITEM 3 | LACK OF CONSISTENT TRANSIT SERVICE



DESCRIPTION

Lack of consistent, frequent, and marketed transit within the corridor negatively impacts the number of people able to arrive to recreation destinations without a car.

STRATEGIES

- Develop an easily accessible, frequent, fun, and consistent transit system, that provides recreation access and can carry recreation equipment, to serve corridor recreation destinations during the summer months. Consider an express transit service to Emerald Bay from a park-n-ride area south of Emerald Bay. Consider expanding transit to other peak weekends during the winter and off-season.
- Reduce the demand for park-n-ride facilities. Coordinate transit services with mainline systems from accommodation areas. Partner with private shuttles, including those from area hotels and accommodations to service the corridor from lodging.
- Implement and enforce no roadside parking recommendations.
- Develop and implement a unified branding and marketing strategy to promote no-car access options to recreation areas.
- Implement point source congestion management strategies throughout the Pope to Baldwin Segment to reduce delays and increase transit ridership.
- Establish a sustainable funding source that addresses varying land manager requirements while collecting revenue from parking and/or transit to subsidize transit operations and the operation of a parking management system. The administrator of the system should be an entity that can work with partner agencies to pool resources as well as pursue additional funding sources such as applying for State Transit Assistance (STA) funds and grant programs.
- Utilize a reservation system for shuttle use to distribute peak use and provide a system that can be used to reduce visitation, if needed, with the understanding that shifting recreation use and unmet demand will need to be addressed as part of a basinwide approach.
- Enhance the bus stops and pull-offs through Emerald Bay to improve transit operations and increase reliability.
- Develop turnaround locations (such as a roundabout) near the north gate at Emerald Bay and as part of parking/shuttle stop improvements at Bayview Campground for buses to turnaround.

ASSOCIATED STRATEGIES AND PROJECTS

- Item 1, Item 4, Item 5, Item 26
- Projects: CW-1.02, CW-1.03, CW-1.04, CW-1.05, CW-1.06, WS-1.01, WS-1.03, WS-1.08, WS-1.09, WS-1.10, WS-1.11, WS-1.14, WS-2.04, WS-2.06, WS-2.07, WS-2.08, WS-2.11, WS-2.12, WS-2.13, WS-2.14, WS-4.03, WS-5.01, WS-5.02

ITEM 3 | CONTINUED



PROJECT LEAD(S) & KEY PARTNERS

- TTD
- LTBMU
- C DPR
- TRPA
- CHP
- EDC Sheriff
- Micro-transit, water taxi operators, and tour companies

- Incorporate visitor experience opportunities as part of the transit system to encourage use.
- Identify a location near the Y or West Way that can be developed as a park-n-ride/bike to serve corridor users entering the corridor from the south.
- Utilize the underutilized parking area at Sugar Pine Point State Park as a park-n-ride/bike location in the northern area of the corridor. Improvements should allow for the facility to also improve TART service and bus turnaround for the north shore.
- Develop public/private partnerships to deliver water taxi operations and promote use of water taxi options to reach recreation destinations and create a desired recreation experience in and of itself. Water taxis should accommodate some bicycles so passengers can ride when they reach their destination. Private operations present an opportunity to help meet corridor goals and provide visitor experience benefits, but they are not a substitute for public transit.
- Explore public/private solutions, including opportunities for micro-transit and tour companies to provide services that are compatible with the corridor vision and desired outcomes.

HIGHER LEVEL DISCUSSION

- Findings for restricting roadside parking are needed per the California vehicle code
- Significantly increasing fine will need to be discussed at a state level
- Addressing increasing visitation demand needs to occur at a regional level

SUCCESS MEASUREMENT

- Reduction in vehicle congestion along the highway.
- Mode share targets for each travel framework phase hits minimum of 80 percent of target.
- Visitor awareness of shuttle program.
- Results of travel surveys indicate a positive experience.
- 15 percent of visitors utilize a park-once strategy and access transit from their accommodations.
- Increased operations budget for land managers.
- Transit and parking management system have sustainable funding source.

ITEM 4 | BUS STOPS & TURNAROUNDS NEEDED IN EMERALD BAY



DESCRIPTION

Bus stop and turnaround locations are limited in Emerald Bay and vehicles are often illegally parked in the bus stop.

PROJECT LEAD(S) & KEY PARTNERS

- TTD
- CALTRANS
- LTBMU
- CDPR
- TRPA

ASSOCIATED STRATEGIES AND PROJECTS

- Item 3
- Projects: WS-2.05, WS-2.11, WS-2.12, WS-2.13, WS-2.14

STRATEGIES

- Formalize bus stop pulloff locations in Emerald Bay so the design is integrated as part of the following areas:
 - Northbound pulloff at Inspiration Point
 - Northbound pulloff at Vikingsholm Parking lot
 - Southbound pulloff part of redesigned roadside parking area at Eagle Falls
 - Southbound pulloff part at Inspiration Point or as part of a redesign of Bayview Campground to a small off-highway parking lot and shuttle stop to meet winter and shoulder season recreation access needs when the summer shuttle is not in operation
 - Turnarounds at Emerald Bay's northern and southern gates and as part of the Bayview transit pulloff
- Implement elements discussed in Item 3.

SUCCESS MEASUREMENT

- Transit reliability and ridership increased.

ITEM 5 | MOTORISTS CONGEST ROADS WHEN SEARCHING FOR PARKING



DESCRIPTION

Summer recreation users arriving to beach entries, trailheads, and off-highway vista points by car creates significant congestion as motorists use the highway as a defacto parking lot and search for a place to park along the side of the road. The traffic congestion, also caused by lack of real-time information, impacts emergency response operations and overall traffic flow.

ASSOCIATED STRATEGIES AND PROJECTS

- Item 1, Item 3, Item 4, Item 26
- Projects: CW-1.02, CW-1.03, CW-1.04, WS-1.03, WS-2-04, WS-2.06, WS-2.07, WS-2.14, WS-4.05, WS-5.05

STRATEGIES

- Restrict/relocate roadside parking from the Pope to Baldwin Segment to D.L. Bliss and shift to off-highway parking lots or park-n-ride/bike locations or park-once strategies from lodging accommodations and/or other recreation sites.
- Implement an adaptive management strategy to monitor roadside parking impacts near Sugar Pine Point State Park and Meeks Bay and restrict/relocate parking when alternative access is provided.
- Significantly increase fine for parking along the roadside in restricted areas.
- Utilize barriers, striping, and No Parking Zones to provide consistency and clarification for visitors and to assist in enforcement of roadside parking restrictions.
- Utilize technology to help enforce roadside parking restrictions – use of license plate readers for ticketing.
- Consider opportunities for third-party ticketing/warnings to increase enforcement.
- Develop and implement a unified branding and marketing strategy to promote no-car access to recreation areas.
- Utilize ITS to notify motorists of transit opportunities, when parking is full, and of sustainable access opportunities.
- Utilize real-time information (through the use of technology such as cameras, counters, ITS, and cell data) to inform the public of travel conditions and allow land managers to adapt strategies.
- Develop turnaround locations (such as a roundabout) near the north gate and south gates at Emerald Bay where motorists can return to park-n-ride locations or off-highway parking lots without creating congestion issues.

ITEM 5 | CONTINUED



PROJECT LEAD(S) & KEY PARTNERS

- TTD
- Caltrans
- LTBMU
- CDPR
- CHP
- EDC Sheriff
- TRPA

- Implement a multi-modal travel system (i.e., shuttle, bike path, water taxi) to provide access to a sustainable number of visitors who would otherwise be displaced from the restriction/relocation of roadside parking. Water taxis should accommodate some bicycles.
- Improve bus stops to meet accessibility requirements, enforce no parking in bus stops, and connect bus stops to recreation areas by shared-use pathways.
- Develop a coordinated corridor parking management system that is implemented in tandem with transit and other implementation strategies and is either part of or aligned with a regional system. The management system should be designed to meet desired corridor outcomes. The parking management system should incorporate a reservation system as described in Item 6.
- Establish a predictable and sustainable funding source to pay for the parking management system and subsidize the transit, parking, and trails operations and maintenance. The system should address land manager requirements, such as fees for entry versus parking. The administrator of the system should be an entity that can work with partner agencies to pool resources and pursue other funding sources such as applying for State Transit Assistance (STA) funds and grant programs.

SUCCESS MEASUREMENT

- 50 percent reduction in the length of delay time to get through the corridor.
- Mode share targets for each travel framework phase hits minimum of 80 percent of target.
- Visitor awareness of shuttle program.
- Results of travel surveys indicate a positive experience.
- 15 percent of visitors utilize a park-once strategy and access transit from their accommodations.
- Transit and parking management system have a predictable and sustainable funding source.
- Miles of No Parking Zones created

HIGHER LEVEL DISCUSSION

- Findings for restricting roadside parking are needed per the California vehicle code
- Significantly increasing fine will need to be discussed at a state level

ITEM 6 | VISITATION SURGE OCCURS AT PEAK TIMES



DESCRIPTION

Demand for recreation access peaks in the corridor from 10AM to 3PM creating stress on the transportation system and causing crowding and congestion.

PROJECT LEAD(S) & KEY PARTNERS

- TTD
- LTBMU
- CDPR
- TRPA
- Vendors

ASSOCIATED STRATEGIES AND PROJECTS

- Item 3, Item 5, Item 26
- Project CW-1.04

STRATEGIES

- Develop and implement a reservation system to disperse and manage demands throughout the day.
- Reservation system should provide options for different groups (e.g., pools for locals, pools for underserved groups that can't afford congestion pricing).

SUCCESS MEASUREMENT

- Peak hour curve is flattened with more people arriving earlier or later in the day. (Similar to Muir Woods case study.)
- Increased turnover rate in select areas, such as vista points, to enhance visitor photo opportunities.

ITEM 7 | OVERNIGHT USERS NEED ACCESS



DESCRIPTION

Parking facilities at Eagle Falls and Bayview trailheads are used by overnight recreation users accessing Desolation Wilderness.

PROJECT LEAD(S) & KEY PARTNERS

- TTD
- LTBMU
- TRPA
- Tahoe Rim Trail Association

ASSOCIATED STRATEGIES AND PROJECTS

- Item 3, Item 5
- Projects: WS-2.06, WS-2.07

STRATEGIES

- Develop a transit system with early morning and late evening runs that serves overnight backcountry users and include parking and transit pass as part of the backcountry permit.

SUCCESS MEASUREMENT

- Sustained recreation access and travel experience to Desolation Wilderness access as measured by the number of backcountry users who reserve parking and/or transit passes as part of their backcountry permit.
- Number of backcountry visitors with a positive experience accessing the backcountry under the new system.

ITEM 8 | PARKING LOTS CLOSED IN WINTER



DESCRIPTION

Off-highway parking areas are closed in the winter and a portion of the off-season, causing recreation users to park along the highway shoulder to access recreation sites. Mild winters and winters with low snow levels result in significant sightseeing in Emerald Bay. Changes due to climate change increase the frequency of mild winters or snow levels at higher elevations. These changes increase the need to provide parking in the corridor during the winter.

PROJECT LEAD(S) & KEY PARTNERS

- LTBMU
- CDPR
- Caltrans
- TTD
- TRPA
- Backcountry Alliance

ASSOCIATED STRATEGIES AND PROJECTS

- Item 5, Item 7
- Projects: S-1.17, WS-1.18, WS-2.18, WS-3.04, WS-4.06, WS-5.06

STRATEGIES

- Keep strategically located parking lots open year-round.
- Coordinate management strategies to allow for snow removal of parking areas in the winter after highway snow removal efforts are completed.
- Adaptively manage corridor parking areas to strategically identify roadside areas that may be appropriate for recreation access in the winter and off-season when transit is not operating.

SUCCESS MEASUREMENT

- Number of winter parking spaces available.
- Visitor experience rating increases due to safe available parking to their winter recreation destination.

ITEM 9 | EMERALD BAY ROAD DESIGN RESTRICTS TRANSIT



DESCRIPTION

Roadway design, including hairpin turns and narrow shoulders, restricts transit access to Emerald Bay. Buses are restricted in capacity which impacts the cost of providing service.

PROJECT LEAD(S) & KEY PARTNERS

- TTD
- CALTRANS
- LTBMU
- CDPR
- TRPA

ASSOCIATED STRATEGIES AND PROJECTS

- Item 1, Item 26
- Project WS-2.09

STRATEGIES

- Conduct a Project Study Report (PSR) of Emerald Bay and SR 89 south of Emerald Bay near Cascade Road to evaluate roadway design elements such as the following, while considering potential effects on visitation access from tour buses:
 - Striping the fog line and rebuilding the shoulder of SR 89 near Cascade Road.
 - Removing the final/tightest switchback as SR 89 enters Emerald Bay just west of Eagle Point Campground.
 - Lowering the elevation of SR 89 along the ridgeline as the roadway passes between Emerald Bay and Cascade Lake to allow for a widened shoulder and guard rails.

SUCCESS MEASUREMENT

- Improved frequency and reliability of transit service to Emerald Bay.
- Reduction in cost of transit service.

ITEM 10 | LACK OF YEAR-ROUND ACCESS THROUGH EMERALD BAY



Photo courtesy of Caltrans

DESCRIPTION

Roadway design and operations restrict year-round access around Emerald Bay. This impacts commuters, emergency responders, and recreation access.

PROJECT LEAD(S) & KEY PARTNERS

- TTD
- CALTRANS
- LTBMU
- CDPR
- TRPA

ASSOCIATED STRATEGIES AND PROJECTS

- Item 11, Item 26
- Projects: WS-2.09, WS-2.18

STRATEGIES

- Conduct a Project Study Report (PSR) of Emerald Bay to evaluate roadway design elements as discussed in Item 9 and to evaluate avalanche control features and management strategies to improve year-round access.

SUCCESS MEASUREMENT

- Minimum road closures of SR 89 in the winter.

ITEM 11 | LIMITED ACCESS FOR EMERGENCY RESPONSE



DESCRIPTION

Limited access for emergency response and evacuation activities and to conduct fuels management and forest health management activities recommended by Lake Tahoe West Restoration Partnership.

PROJECT LEAD(S) & KEY PARTNERS

- CALTRANS
- EDC Sheriff
- LTBMU
- Cal Fire
- CDPR
- TFFT
- TRPA
- NT Fire
- TTD
- PC Sheriff
- CHP

ASSOCIATED STRATEGIES AND PROJECTS

- Item 10
- Projects: WS-1.12, WS-1.13, WS-1.14, WS-2.08, WS-2.16, WS-2.17, WS-3.03, WS-4.04, WS-5.04

STRATEGIES

- Improve Fallen Leaf Road for emergency response and evacuation needs. Install access gates and fire locks, if needed.
- Improve the Camp Richardson, Emerald Bay, and Sugar Pine Point State Park piers to have a multi-use function for lakeward emergency access.
- With potential land use reconfigurations at Jameson Beach Road, repurpose existing structures for summer police/fire staging and administration, operations.
- Develop emergency access and evacuation pullouts at regular intervals and sign and enforce no parking in pullouts, vehicles must not be left unattended.
- Consider a first responder base station at Camp Richardson.
- Designate and improve the road construction staging area west of Bayview Campground at Emerald Bay as a helipad access site.
- Develop evacuation plan.
- Provide strategically located turn around points (roundabouts, hammerheads, or pullouts) allowing emergency responders the ability to turn around and respond in the opposite direction.
- Provide helipad access.

SUCCESS MEASUREMENT

- Emergency pull-outs located every 1/2 to 1 mile.
- Increased in-corridor emergency response staging locations.

ITEM 12 | HIGH TRAFFIC SPEEDS NEAR HIGH VOLUMES OF PEDESTRIANS



DESCRIPTION

Motorists travel through high use recreation areas at high travel speeds, even during peak summer periods.

PROJECT LEAD(S) & KEY PARTNERS

- TTD
- CHP
- CALTRANS
- EDC Sheriff
- LTBMU
- TRPA
- CDPR

HIGHER LEVEL DISCUSSION

- Recreation zone speed limit will need to be discussed at a state level to revise California vehicle code

ASSOCIATED STRATEGIES AND PROJECTS

- Item 26
- Project CW-1.11

STRATEGIES

- Implement a recreation corridor speed limit that allows for reducing the speed limit around recreation sites during the summer and other peak recreation use days.

SUCCESS MEASUREMENT

- Implementation of recreation zone speed limit.

ITEM 13 | LIMITED OPERATIONS BUDGETS



DESCRIPTION

Recreation use levels and limited operations and maintenance budgets have stretched land manager's ability to protect natural and cultural resources, address litter, and improve existing facility infrastructure from user impacts.

PROJECT LEAD(S) & KEY PARTNERS

- LTBMU
- CHP
- CDPR
- EDC Sheriff
- TTD
- TRPA
- CALTRANS

ASSOCIATED STRATEGIES AND PROJECTS

- Item 3, Item 5, Item 26
- Projects: CW-1.04, CW-1.07

STRATEGIES

- Identify revenue generation and cost-saving opportunities.
- Support requests for increased budgets for operations and maintenance (annual and capital) including staffing of recreation areas and implementation of capital projects to manage user behavior, minimize impacts on natural and cultural resources, and align garbage management needs with operational resources.
- Manage corridor access to disperse use during peak periods and establish a framework for organizing and managing visitor arrivals.
- Develop agreements to allow revenue to stay local for reinvestment into the corridor.
- Utilize total asset management planning for facilities to consider full life-cycle costs.

SUCCESS MEASUREMENT

- Increased operation budgets for land managers to meet goals for public lands (including resource protection and visitor access.)
- Flexibility to spend dollars across jurisdictional boundaries.

ITEM 14 | LACK OF PIERS AND OPERATIONS TO SUPPORT WATER TAXI SERVICE



DESCRIPTION

The need for improved piers and lack of staffing prevent the opportunity for water taxis to serve Camp Richardson, Emerald Bay, and Sugar Pine Point State Parks. The lack of improved piers impacts ADA/ABA access and prevents emergency response teams from easily accessing the water.

PROJECT LEAD(S) & KEY PARTNERS

- TTD
- TRPA
- CDPR
- EDC Sheriff
- LTBMU
- Cal Fire

ASSOCIATED STRATEGIES AND PROJECTS

- Item 5, Item 11, Item 13, Item 26
- Projects: WS-1-14, WS-2.08, WS-5.09

STRATEGIES

- Improve the piers at Camp Richardson and Emerald Bay and construct a new pier at Sugar Pine Point State Park to meet water taxi requirements and to double as emergency/public safety facilities.
- Increase staffing budgets to monitor and oversee uses at the piers.

SUCCESS MEASUREMENT

- Pier improvements completed and operational needs met.

ITEM 15 | LACK OF TECHNOLOGY INFRASTRUCTURE



DESCRIPTION

Lack of power, broadband, cellular infrastructure, and fiber communications in the corridor impedes the ability to provide real-time travel information and implement corridor recommendations.

PROJECT LEAD(S) & KEY PARTNERS

- TTD
- EDC Sheriff
- LTBMU
- Liberty Utilities
- CDPR
- Technology providers
- CALTRANS
- TRPA
- CHP

ASSOCIATED STRATEGIES AND PROJECTS

- Item 1, Item 26
- Projects: CW-1.01, CW-1.13, WS-1.07, WS-2.01, WS-2.2, WS-2.03, WS-2.10, WS-3.01, WS-3.02, WS-4.01, WS-4.02, WS-5.03

STRATEGIES

- Improve ITS infrastructure, address needs for a traffic operations center, and utilize ITS as key element of visitor communications to provide real-time information.
- Enhance broadband and fiber service where feasible.
- Co-locate technology and power infrastructure with the Tahoe Trail and roadway and infrastructure improvements.
- Evaluate opportunities for microcell technologies where other infrastructure enhancements are not feasible.
- Evaluate opportunities with each project to co-locate or enhance existing utility infrastructure such as replacement of aging infrastructure or lack of utility infrastructure.
- Install electric vehicle charging stations.

SUCCESS MEASUREMENT

- Access to technology improved along the corridor to support operations and real-time travel information.
- Improved utility infrastructure throughout the corridor.
- Electrification for vehicles and transit.

ITEM 16 | TRAFFIC CONGESTION AT POPE BEACH ROAD & EAGLE’S NEST CAMPGROUND



DESCRIPTION

Traffic congestion associated with Pope Beach entry and Eagle’s Nest Campground.

PROJECT LEAD(S) & KEY PARTNERS

- LTBMU
- Vendor
- TTD
- TRPA

ASSOCIATED STRATEGIES AND PROJECTS

- Item 5, Item 26
- Project WS-1.02

STRATEGIES

- Implement recommendations associated with overall congestion management (Item 5).
- Extend bike path to Pope Beach.
- Relocate the entry kiosk and turn-around further north along Pope Beach Road to increase the vehicle capacity for queue along Pope Beach Road and off SR 89.
- Add a second entry lane along Pope Beach Road to increase throughput and decrease congestion. Consider an expedited lane for visitors without watercraft.
- Explore legislative changes that would allow agencies an opportunity to flatten the demand curve through variable pricing (come early, come late and pay a lower rate).
- Consider utilizing a reservation system to distribute demand.
- Utilize ITS to notify motorists of transit opportunities, when parking is full, and of alternative transportation options.
- Install electric vehicle charging stations at Pope Beach.
- Analyze Eagle’s Nest Campground entry for possible operational improvements which may include a left turn lane, or a two-way left turn lane, or an improvement within the campground to hold a larger queue.

SUCCESS MEASUREMENT

- Reduced travel delays and vehicular queue along SR 89 at Pope Beach Road and Eagle’s Nest Campground entry.

ITEM 17 | TRAFFIC CONGESTION AT JAMESON BEACH ROAD



DESCRIPTION

Pedestrians crossing SR 89 at Jameson Beach Road cause vehicle delay.

PROJECT LEAD(S) & KEY PARTNERS

- LTBMU
- Vendors
- Caltrans
- TTD
- CHP
- EDC Sheriff
- TRPA

ASSOCIATED STRATEGIES AND PROJECTS

- Item 5, Item 26
- Project WS-1.04

STRATEGIES

- Utilize adaptive management to address the issue in stages and evaluate improvements.
- Phase 1: Relocate the crosswalk from the eastern leg of the intersection to the western leg. Consider installing a rail barrier at the eastern leg of the intersection to enforce use of the western leg, thereby allowing a free left turn by motorists exiting Jameson Beach Road. Relocate the Pope Baldwin Bike Path to behind the General Store.
- Phase 2: Restrict roadside parking. This will reduce the number of pedestrian crossings associated with people parking along the highway and using the pedestrian crossing to either reach the facilities located on either side of the roadway.
- Phase 3: Relocate the bike rental and ice cream shop uses to the northern side of the roadway and consider creating an outdoor plaza and use area associated with the relocated facilities. The existing buildings could be repurposed for offices for administrative uses and potentially emergency responder staging.
- Phase 4 (if success measures aren't met through Phase 1-3 efforts): Install a signal at the intersection to further control pedestrian movement across the highway.
- Analyze and consider additional operational improvements such as median turn lanes and intersection improvements.

SUCCESS MEASUREMENT

- Reduced travel delays and vehicular queue along SR 89 at Jameson Beach Road.
- Reduced number of pedestrian crossings by at least 75 percent.

ITEM 18 | VISITATION IS NOT DISPERSED



DESCRIPTION

Disconnected recreation sites and parking lots within the Pope to Baldwin segment discourages visitation of recreation areas west of Camp Richardson and increases the frequency of motorists exiting and entering the highway to find parking.

PROJECT LEAD(S) & KEY PARTNERS

- LTBMU
- Vendors
- Washoe Tribe
- Caltrans
- TTD
- TRPA

ASSOCIATED STRATEGIES AND PROJECTS

- Item 5, Item 26
- Project WS-1.03

STRATEGIES

- Implement recommendations associated with overall congestion management and source specific issues occurring at Pope Beach Road and Jameson Beach Road (Items 5, 16, and 17).
- Create an off-highway vehicular circulation route (with parallel shared-use pathway) that connects the use areas associated with the Tallac Historic Site and Jameson Beach Road to reduce the number of intersections along SR 89 and allow motorists to access underused parking areas (such as the Taylor Creek Visitor Center parking area) and disperse users to underutilized sites.
- Create shared-use path connections from the Pope to Baldwin Bike Path to beach recreation sites such as Camp Richardson and Baldwin Beach.
- Implement off-highway parking projects associated with the LTBMU approved projects as of 2020 (off-highway parking lot improvements for Kiva Point, Tallac, Valhalla, volunteer RV campground, Valhalla entrance, Baldwin Beach entrance, and snow play area off Fallen Leaf Road).

SUCCESS MEASUREMENT

- Increased dispersed use among recreation sites in the Pope to Baldwin Segment.
- Fully utilized off-highway parking lot resources within the segment.
- Reduced travel delay in the segment.

ITEM 19 | POPE TO BALDWIN BIKE PATH HAS HIGH USE VOLUMES



DESCRIPTION

The Pope to Baldwin Bike Path has high volumes of users in the summer which discourages some users from biking to recreation destinations in the Pope to Baldwin Segment.

PROJECT LEAD(S) & KEY PARTNERS

- LTBMU
- Caltrans
- TTD
- TRPA

ASSOCIATED STRATEGIES AND PROJECTS

- Project WS-1.16

STRATEGIES

- Create a cycle track in the Pope to Baldwin Segment utilizing the previously used roadside parking location to increase the capacity for cyclists to ride to their recreation destinations. Consider the shared use of the cycle track for priority transit access to bypass congested areas. Move the existing path to behind the General Store.
- Enhance the natural surface trails west of the highway to facilitate bike access from Gardner Mountain to the Camp Richardson area.
- Enhance the existing Pope to Baldwin Bike Path through the development of turnouts and vistas to allow slower moving users an opportunity to stop and take in the sites and move out of the way of other cyclists.
- Consider a left turn pocket for campground access.

SUCCESS MEASUREMENT

- Increased number of users arriving to the Pope to Baldwin segment by bicycle.

ITEM 20 | LACK OF RECREATION GATEWAY, VISITOR INFO, & CONSISTENT WAYFINDING



DESCRIPTION

Recreation corridor lacks a gateway that announces users have transitioned into a special area, visitor information and marketing strategies that promote transit, and consistent wayfinding to enable travelers to easily locate their destinations.

PROJECT LEAD(S) & KEY PARTNERS

- TTD
- LTBMU
- CDPR
- CALTRANS
- TRPA

ASSOCIATED STRATEGIES AND PROJECTS

- Projects: CW-1.14, WS-1.19, WS-5.07

STRATEGIES

- Create recreation gateways at the southern and northern ends of the corridor.
- Incorporate visitor travel information into the Taylor Creek Visitor Center and potential new park-n-ride/bike locations in the corridor to share information about the recreation corridor and parking and transportation options.
- Implement Vikingsholm parking and visitor facility improvements per California State Park capital improvement program.
- Build off regional corridor branding to establish a consistent aesthetic and easy to understand wayfinding program.
- Promote regional marketing and communication strategies to build awareness of the proposed transportation system.

SUCCESS MEASUREMENT

- Improved wayfinding and visitor experience. Increased place recognition for overall corridor.

ITEM 21 | EVENTS CAN IMPACT CONGESTION



DESCRIPTION

Special events in the corridor are an economic driver, but they are also sources of significant traffic, create additional demand for parking, and can impact traffic flow if not managed.

PROJECT LEAD(S) & KEY PARTNERS

- LTBMU
- CDPR
- CALTRANS
- TTD
- CHP
- EDC & EDC Sheriff
- TRPA

ASSOCIATED STRATEGIES AND PROJECTS

- Item 26

STRATEGIES

- Create a checklist for event permits/approval so that permittees acquire all of the necessary permits and notify all of the required parties. Develop a coordinated calendar so events do not occur during the same time.
- Establish a travel access framework that can be utilized during large corridor events such as Oktoberfest.
- Enhance ability to host more special events in order to generate more revenue for corridor operations.

SUCCESS MEASUREMENT

- Coordinated permit and notification system.

ITEM 22 | ROADWAY IS A BARRIER FOR WILDLIFE MOVEMENT



DESCRIPTION

Roadway presents a barrier to wildlife movement from habitat areas to the lake.

PROJECT LEAD(S) & KEY PARTNERS

- Caltrans
- TRPA
- LTBMU
- CDPR

ASSOCIATED STRATEGIES AND PROJECTS

- Projects: WS-1.20, WS-2.19, WS-3.05, WS-4.07, WS-5.08

STRATEGIES

- Create a wildlife crossing near West Way to facilitate wildlife movement under the roadway.
- Create a wildlife crossing in the Emerald Bay area to facilitate wildlife movement under the roadway.
- Design Meeks Creek Bridge and fish crossing structures to facilitate wildlife movement.

SUCCESS MEASUREMENT

- Reduced wildlife/vehicular incidents.

ITEM 23 | OVERHEAD POWERLINES CREATE A WILDFIRE RISK



DESCRIPTION

Wildfire risk is increased with above ground powerlines in the corridor.

PROJECT LEAD(S) & KEY PARTNERS

- TTD
- LTBMU
- CDPR
- Cal Fire
- TRPA
- Liberty Utilities

ASSOCIATED STRATEGIES AND PROJECTS

- Item 1
- Projects: W-1.01, CW-1.13, WS-2.01, WS-2.02, WS-2.03, WS-3.01, WS-4.01

STRATEGIES

- Where feasible, underground powerlines and co-locate utilities with the Tahoe Trail corridor. Include conduit for future fiber-optic upgrades. Hardening of the infrastructure may be acceptable when undergrounding is not feasible.
- Consider electric vehicle charging needs as part of utility projects.

SUCCESS MEASUREMENT

- Powerlines undergrounded.

ITEM 24 | ROADSIDE PARKING DEGRADES EFFECTIVENESS OF STORMWATER FEATURES



DESCRIPTION

Stormwater improvements are degraded and do not function due to vehicles parking in them.

PROJECT LEAD(S) & KEY PARTNERS

- TTD
- Caltrans
- LTBMU
- CDPR
- CHP
- EDC Sheriff
- TRPA

ASSOCIATED STRATEGIES AND PROJECTS

- Item 5
- Projects: WS-1.03, WS-2.04, WS-2.06, WS-2.07

STRATEGIES

- Implement strategies associated with Item 5 and restrict/relocate roadside parking.
- Restore disturbed areas.

SUCCESS MEASUREMENT

- No vehicles parking in stormwater improvement areas.
- Improved lake clarity.

ITEM 25 | VIKINGSHOLM PARKING NEEDS REPAIRS



DESCRIPTION

The viaduct and Vikingsholm parking area have subsiding soils which require creative engineering and improving the Vikingsholm parking lot.

PROJECT LEAD(S) & KEY PARTNERS

- C DPR
- TTD
- LTBMU
- CALTRANS
- TRPA

ASSOCIATED STRATEGIES AND PROJECTS

- Project WS-2.05

STRATEGIES

- Implement Vikingsholm parking and visitor facility improvements per California State Park capital improvement program.
- Encourage a multi-agency approach to the new improvements that consider leveraging partnerships and increasing grant options by incorporating a segment of the Tahoe Trail from Vikingsholm to the wedding vista. Including Eagle Falls parking, transit pull-offs, and the Tahoe Trail as part of the project can reduce overall construction costs and interruption to traffic flow for visitors by consolidating project improvements.
- Consider tour bus access and management as part of parking lot planning and design.

SUCCESS MEASUREMENT

- Reconstruction and renovation of the Vikingsholm parking area with visitor facilities and placemaking.

ITEM 26 | IMPLEMENTATION IS TOUGH & NEEDS PARTNERSHIPS & EXEC BUY-IN



DESCRIPTION

Implementation is tough and requires ongoing partnerships both at staff levels and at higher executive and bi-state levels to move recommendations forward and address funding issues.

STRATEGIES

- Continue convening the Bi-State Working Group on Transportation and establish Executive Level conversations by lead agencies to address procedural, legislative, code, enforcement, capacity, funding, environmental review, cross jurisdictional resolution, and other high priority issues.
- It is recognized that top-level agency support is needed for agency staff to participate and have adequate time and operational dollars to be engaged in the partnership. And executive involvement is critical to allow decision-making and conflict resolution to occur for challenging issues.
- Formalize agency partnerships, decision-making process, conflict resolution, and roles and responsibilities through an agreement modeled from the SR 28 CMP Inter-local Agreement (see appendix). The agreement, or memorandum of understanding, should document the commitment to work together and leverage joint projects to address the shared issues.
- Develop a Corridor Management Team (CMT) at the staff level to move forward implementation strategies. The CMT should work together to address challenges and fine tune operations and maintenance elements. Staff should coordinate project priorities and focus on finding opportunities for joint projects to leverage funding and maximize project benefits by having a corridorwide perspective. Discussion topics include, but are not limited to Tahoe Trail completion, project coordination, continued public outreach, implementation and fine-tuning of the parking management and reservation system, monitoring visitation levels and resolving corridor challenges/hot spots as they arise, congestion, creative solutions, safety, emergency access, evacuation planning, year-round access, roadway design,

ASSOCIATED STRATEGIES AND PROJECTS

- Agreement (modeled from the SR 28 Inter-local Agreement)
- Implementation of plan strategies and projects is tightly connected to the partnership moving forward and establishing project leads to champion plan implementation.

ITEM 26 | CONTINUED



PROJECT LEAD(S) & KEY PARTNERS

- TRPA
- LTBMU
- TTD
- CDPR
- Caltrans
- EDC
- Washoe Tribe
- CHP
- CDF
- LVFPD
- FLFD
- MBFPD
- PC
- SLT
- TART
- TNT-TMA
- Tahoe Fund

SUCCESS MEASUREMENT

- Agreement signed.
- Executive team continues and engages high level support from all lead agencies.
- Necessary legislative changes enacted and agreements made for plan implementation and revenue.
- Partnership formed and decision-making process established and agreed upon.
- Regular meetings occur.
- CMP is implemented.

avalanche control, enforcement, leveraging funding, bundling projects, joint grant applications, and litter management.

- The CMT should consider the following to be effective:
 - Decision-making rules should be established, i.e., deciding whether consensus is required to move forward on a given action. It should be recognized that land managers have final authority for decisions on their lands while having a goal for consistency in the overall approach for the corridor. Projects and implementation actions should be made in consideration to how they help the overall corridor achieve its goals.
 - Staff from a lead agency should be identified to set agendas, send meeting invites, secure meeting venues, and record meeting minutes and outcomes. The lead agency can rotate every year to two years.
 - A partnership chair should be determined to help set agendas and run meetings.
 - Establish a regular meeting schedule (at least quarterly and for enough time to have a rich and productive discussion where outcomes and roles and responsibilities are reviewed).
 - Accountability is essential. Each meeting should result in specific actions assigned to individuals or agencies and a timeline for their completion.
 - Conflict resolution should occur quickly. Engage decision-makers early to get buy-in and clear direction.

ITEM 27 | LACK OF PUBLIC/PRIVATE PARTNERSHIPS



Photo by Camp Richardson

DESCRIPTION

Private operators can help shift visitor trips from personal vehicles to higher occupancy transportation modes. Operators should work toward corridor goals and desired outcomes for the protection of natural and cultural resources and visitor travel experience. Micro-transit, tours, water taxis, and private shuttles can support visitor management and provide opportunities for interpretation and improved visitor experience, but they are not a substitute for public transit.

PROJECT LEAD(S) & KEY PARTNERS

- TTD
- LTBMU
- CDPR
- TRPA
- Micro-transit, water taxi operators, and tour companies

ASSOCIATED STRATEGIES AND PROJECTS

- Item 3
- Projects: CW-1.02, CW-1.03, CW-1.04, CW-1.05, CW-1.06, WS-1.01, WS-1.03, WS-1.08, WS-1.09, WS-1.10, WS-1.11, WS-1.14, WS-2.04, WS-2.06, WS-2.07, WS-2.08, WS-2.11, WS-2.12, WS-2.13, WS-2.14, WS-4.03, WS-5.01, WS-5.02

STRATEGIES

- Explore public/private solutions, including opportunities for micro-transit and tour companies to provide services that are compatible with the corridor vision and desired outcomes. Private operations should acknowledge the need to manage visitation levels as part of the overall corridor strategy.
- Designate areas for tour bus parking, private shuttles, and ride-share curb space to prevent negative impacts associated with private operators parking in bus stops and viewpoints and disrupting the parking management system. For example, the proposed Bayview parking area can be designed to accommodate a certain number of tour buses. Visitors can then explore the rest of Emerald Bay by trail connections, public transit, and/or micro-transit. This would reduce conflicts that tour buses may pose in smaller parking areas.
- Establish a permit system with fee for private operations where the fee is reinvested into the corridor transportation system. The permit system should consider the size and number of tour buses allowed and timing of arrivals in order to achieve desired outcomes of dispersing visitation and managing overall visitation numbers.
- Evaluate opportunities for public or private micro-transit or shuttles, consistent with corridor capacity and vehicle requirements, to reduce congestion and greenhouse gases within the corridor related to recreation travel.
- Support shuttles or tour operators with bike/gear trailers to encourage people to park their vehicles and travel the corridor without a personal vehicle. The schedule for private operations with bike trailers may not be as impacted by off-loading/on-loading time for bicycles and other recreation gear.

SUCCESS MEASUREMENT

- Reduced number of private vehicles on SR 89.

ITEM 28 | CLIMATE CHANGE



DESCRIPTION

Global changes to climate patterns results in vulnerabilities and impacts to environmental, economic, and social systems.

PROJECT LEAD(S) & KEY PARTNERS

- TRPA
- LTBMU
- TTD
- CDPR
- Caltrans
- EDC
- Washoe Tribe
- CHP
- CDF
- LVFPD
- FLFD
- MBFPD
- PC
- SLT
- TART
- TNT-TMA
- Tahoe Fund

ASSOCIATED STRATEGIES AND PROJECTS

- Item 3, Item 8, Item 10, Item 11, Item 15, Item 23, Item 24
- Projects: CW-1.02, CW-1.03, CW-1.04, CW-1.05, CW-1.06, WS-1.01, WS-1.03, WS-1.08, WS-1.09, WS-1.10, WS-1.11, WS-1.14, WS-2.04, WS-2.06, WS-2.07, WS-2.08, WS-2.11, WS-2.12, WS-2.13, WS-2.14, WS-4.03, WS-5.01, WS-5.02

STRATEGIES

- Improve access for fuels reduction and forest health management activities recommended by Lake Tahoe West Restoration Partnership.
- Where feasible, underground powerlines and co-locate utilities with the Tahoe Trail corridor. Include conduit for future fiber-optic upgrades. Hardening of the infrastructure may be acceptable when undergrounding is not feasible.
- Install electric vehicle charging stations.
- Prioritize the use of electric buses and water taxis fueled by clean energy, to the extent their use is not cost prohibitive.
- Design facilities to reduce risks of flooding, manage runoff, and be inviting during times of climatic imbalance, such as extreme heat or drought.
- Implement multi-modal strategies and parking management programs and construct associated infrastructure to reduce VMT and GHG.
- Establish individual project goals and metrics to reduce impacts on natural resources and provide benefits to accelerate threshold attainment.
- Track visitation patterns, including changes and increases associated with climate change. Adapt strategies to address changes in patterns.
- Coordinate with and implement strategies from climate action plans around the region.

SUCCESS MEASUREMENT

- Reduced environmental impact and accelerated threshold attainment.
- Increased number of fuels reduction projects in the corridor.



CHAPTER 4 TRAVEL ANALYSIS

MOBILITY ALTERNATIVES

The strategies recommended in Chapter 3 reinforce the need for an integrated and coordinated approach to corridor management. Central to being able to address the issues associated with recreation access is the need to change how people arrive to the corridor during the summer (from Memorial Day to Labor Day). This chapter summarizes the results of a travel analysis conducted to evaluate a range of transit service plans and their required capital and operational needs. In addition to providing transit and bike facilities, the outcomes revealed the need to use a reservation system, to disperse visitation throughout the day, and to develop partnerships with water taxis to meet access needs. To be fiscally achievable, revenue from the corridor parking management system needs to be allowed to be reinvested into operations and maintenance of the corridor and its transportation system.

Alternatives | How You Arrive in the Summer?

The travel analysis evaluated a range of options for how people could arrive to their recreation destinations during the summer. As shown in Figure 22, the spectrum of alternatives ranged from being auto dominant to car free. In all options, roadside parking would be restricted and thru traffic would be allowed.

The following three routes were evaluated in the transit model:

- SnoPark or the Y to Emerald Bay
- Stateline to Emerald Bay
- Sugar Pine Point State Park to Emerald Bay

How Many People to Accommodate?

As a starting point, the transit model used visitation data collected in 2018 as a baseline to test how many buses, routes, and operational dollars would be needed to move Emerald Bay and the Pope to Baldwin Segments’ 2018 estimated daily visitation and 2045’s projected visitation per the LTCCP (annual increase of one percent). These numbers were used for reference only. It is recognized that different visitation projections are available for the Tahoe region. The analysis showed a viable transit system could only accommodate a visitation increase of approximately 5 percent over the 2018 visitation. Increased recreation demand needs to be addressed at a regional level. Transit, trails, and parking management programs provide tools to shift use patterns to reduce impacts and to monitor and control demands as appropriate. The system can also scale up or down to meet desired management levels.

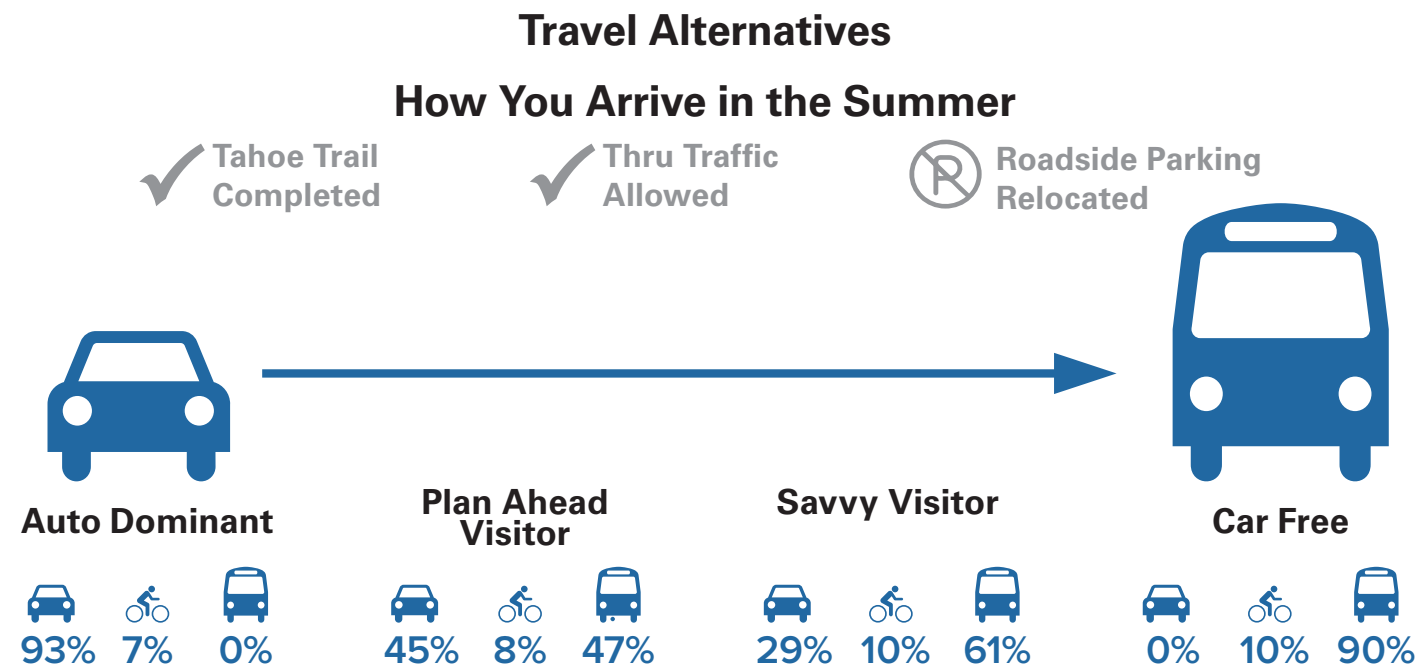


Figure 21: Spectrum of Travel Alternatives Evaluated

A Baseline for Analysis | 2018 Visitation

The estimated daily number of visitors arriving to Emerald Bay and the Pope to Baldwin area on a busy summer day in 2018 is shown in Figures 23 and 24. The calculation was made using travel data collected in 2018, such as length of stay, number of people per vehicle, number of available parking spaces, occupancy, and numbers of cars parked along the highway shoulder. The travel analysis assumed the same travel pattern observed in 2018.

Within the Emerald Bay Segment, data collection included a visual study to evaluate how long a car stayed. This information was used to understand what percentage of visitors were likely only coming to take a picture or enjoy the view and then leave. Out of the 16,180 people estimated to visit Emerald Bay on a busy summer day in 2018, 5,527 of them stayed less than 20 minutes. For the transit analysis, these visitors would be unlikely to shift to transit. Therefore, the model used a number of 10,653 as its design number.

Within the Pope to Baldwin Segment, the estimated number of visitors on a busy summer day in 2018 was 5,920. Of that number, it was estimated that 2,262 of them arrived and parked along the highway shoulder. For the analysis it was recognized that the off-highway parking lots serve a significant portion of the segment’s visitors. The model assumed the continued use of the existing parking lots in every option and looked at the opportunity to shift the travel behavior of those people that would be displaced with the restriction of roadside parking.

Outcomes

The figures on the following pages summarize the key takeaways from the travel analysis for each alternative. Note that the projected fleet costs is not inclusive of all costs. For example, electrification and the construction of a maintenance yard to service the buses is not included.

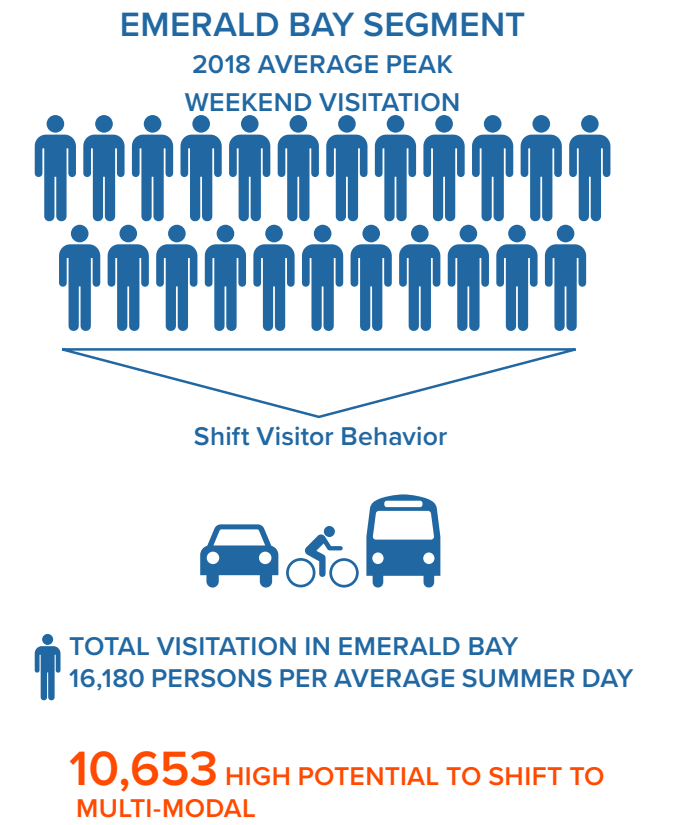


Figure 22: Average Number of Daily Visitors to Emerald Bay in 2018

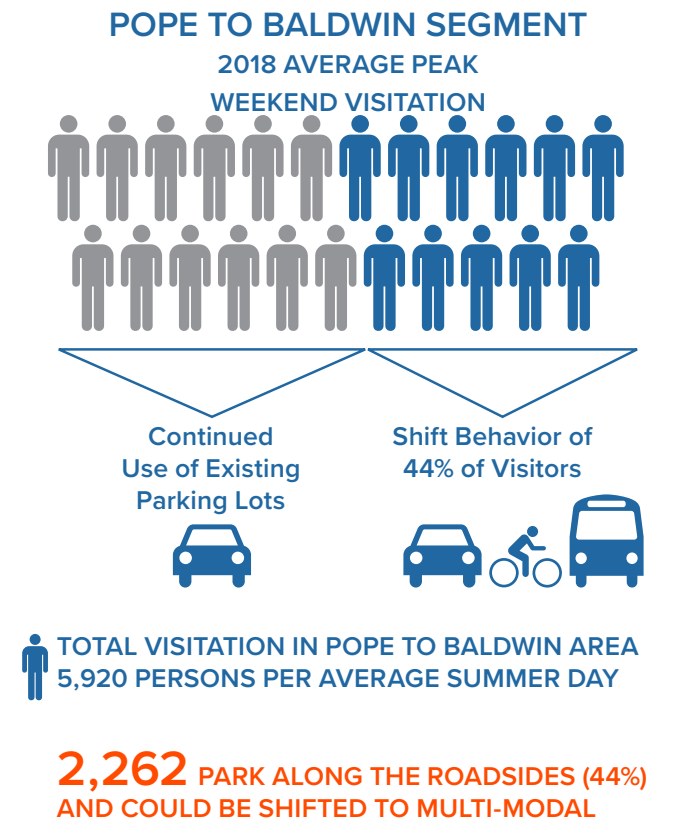
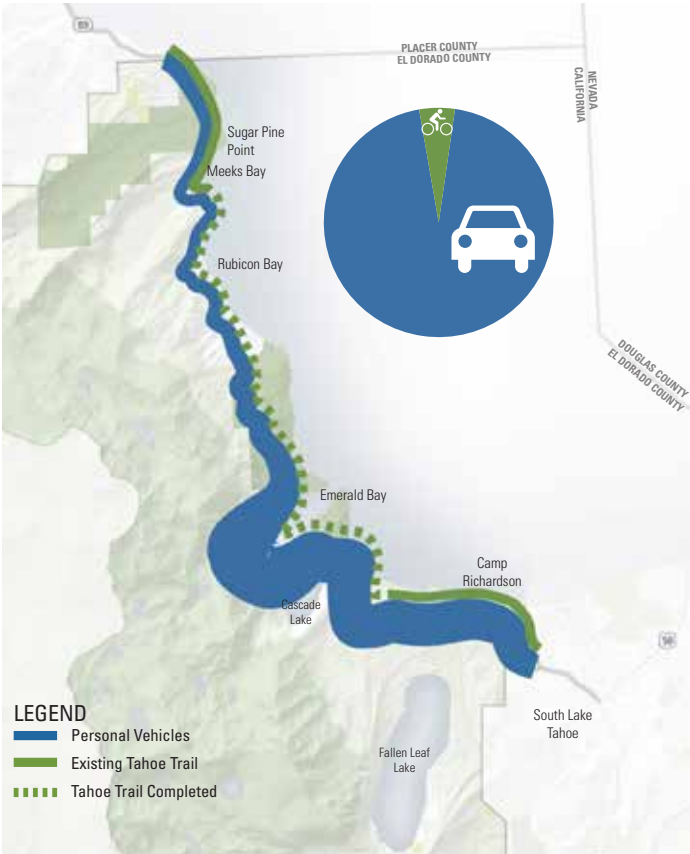
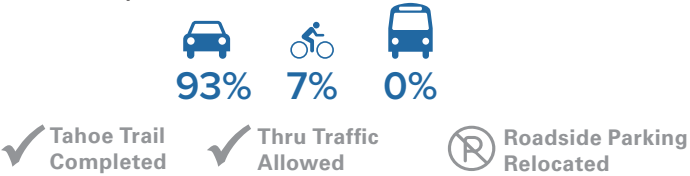


Figure 23: Average Number of Daily Visitors to the Pope to Baldwin Segment in 2018

Auto Dominant Alternative



How People Would Arrive in the Summer



Assessment

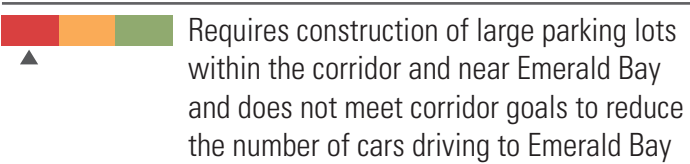
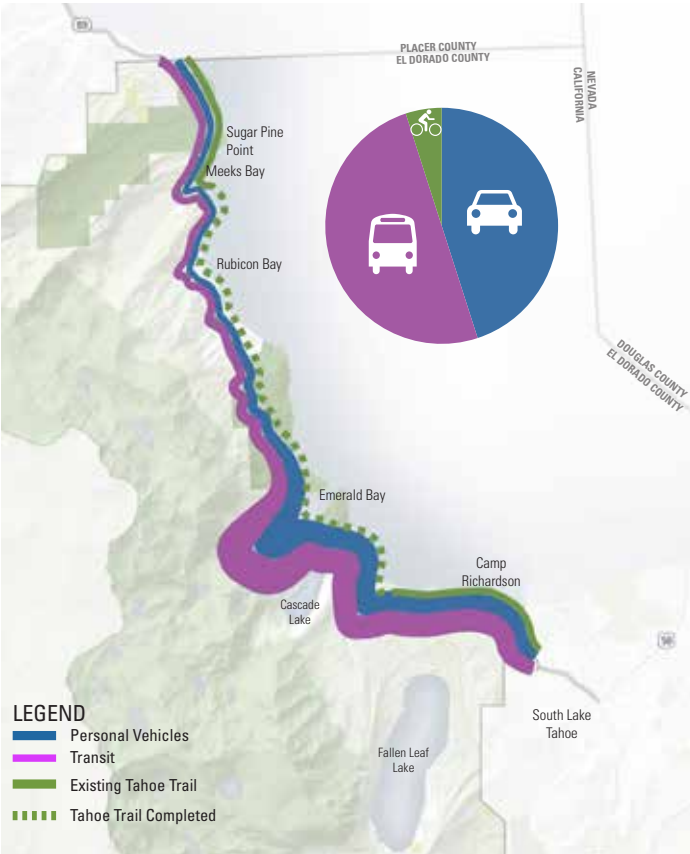


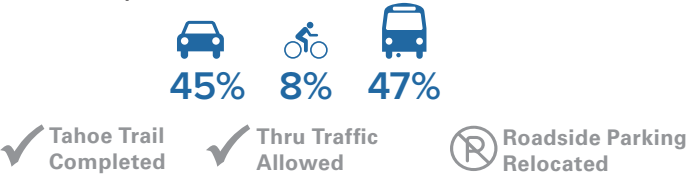
Figure 24: Travel Analysis | Auto Dominant Alternative

¹ Utilizes the Linking Tahoe: Corridor Connection Plan projections of a 1 percent annual visitation increase.

Plan Ahead Alternative



How People Would Arrive in the Summer



Number of Buses & Costs

2035 Projected Visitation ¹			
Fleet Size	Fleet with Spares	Projected Fleet Costs	Projected Annual Operating Costs
19	26	\$10,260,000	\$3,675,200
A bus every 5-10 minutes from SnoPark to Emerald Bay			
2045 Projected Visitation ¹			
Fleet Size	Fleet with Spares	Projected Fleet Costs	Projected Annual Operating Costs
48	65	\$25,920,000	\$12,043,711
A bus every 3-5 minutes from the Y to Emerald Bay + a bus every 10 minutes from Stateline to Emerald Bay			

Assessment

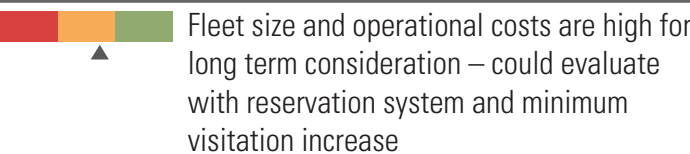
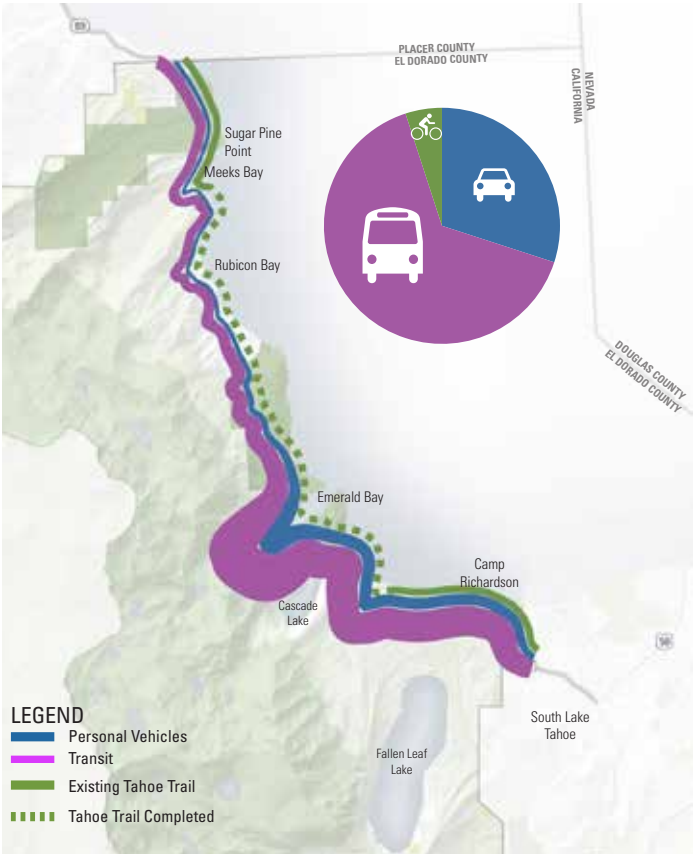
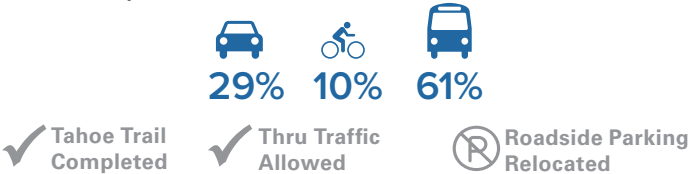


Figure 25: Travel Analysis | Plan Ahead Alternative

Savvy Visitor Alternative



How People Would Arrive in the Summer



Number of Buses & Costs

2035 Projected Visitation¹

Fleet Size	Fleet with Spares	Projected Fleet Costs	Projected Annual Operating Costs
25	34	\$13,500,000	\$4,137,200

A bus every 5 minutes from SnoPark to Emerald Bay

2045 Projected Visitation¹

Fleet Size	Fleet with Spares	Projected Fleet Costs	Projected Annual Operating Costs
67	90	\$36,180,000	\$13,698,273

A bus every 2-4 minutes from the Y to Emerald Bay + a bus every 5-10 minutes from Stateline to Emerald Bay

Assessment

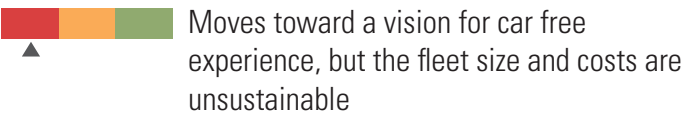
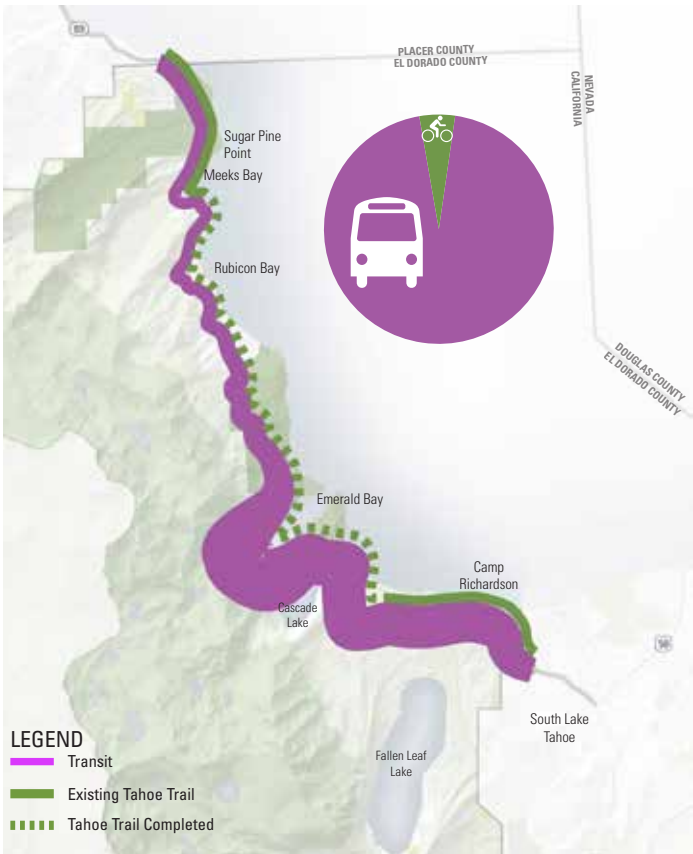


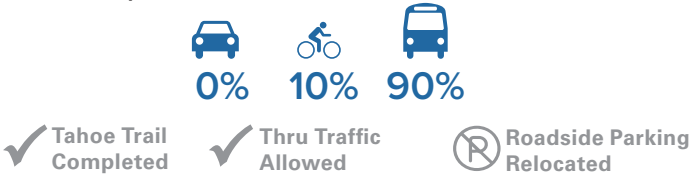
Figure 26: Travel Analysis | Savvy Visitor Alternative

¹ Utilizes the Linking Tahoe: Corridor Connection Plan projections of a 1 percent annual visitation increase.

Car Free Visitor Alternative



How People Would Arrive in the Summer



Number of Buses & Costs

2035 Projected Visitation¹

Fleet Size	Fleet with Spares	Projected Fleet Costs	Projected Annual Operating Costs
38	51	\$20,520,000	\$4,959,200

A bus every 3-7 minutes from SnoPark to Emerald Bay

2045 Projected Visitation¹

Fleet Size	Fleet with Spares	Projected Fleet Costs	Projected Annual Operating Costs
92	124	\$49,680,000	\$16,474,571

A bus every 2-3 minutes from the Y to Emerald Bay + a bus every 3 minutes from Stateline to Emerald Bay

Assessment

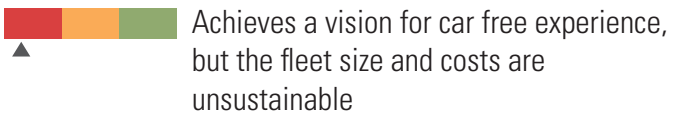


Figure 27: Travel Analysis | Car Free Alternative

GENERAL CONCLUSIONS

An auto dominant option does not meet corridor goals and requires the construction of large amounts of parking near Emerald Bay – an area physically and environmentally constrained. This option was considered, but did not move forward for further study.

The fleet requirements (size), operating cost, and capital costs of a car free transit option on its own are likely going to overwhelm an agency trying to provide the bus service. Therefore, shuttle service on its own is likely not a viable mode for the long term. Parking management and corridor management tools, such as a reservation system for the transit system and parking areas, are also needed to disperse visitation throughout the day. Private partnerships with water taxis can supplement transit access and provide a unique visitor experience opportunity for a portion of visitors. Water taxis should accommodate some bicycles so passengers can ride when they reach their destination.

OUTCOMES

The outcomes of the study revealed the need to consider reservations and parking management in addition to shuttle and bicycle alternatives. The analysis showed a viable transit system could accommodate a modest visitation increase of approximately 5 percent over the 2018 baseline estimate. Increased recreation demand needs to be addressed at a regional level.

To be fiscally achievable, the transportation system needs to utilize a reservation system to distribute visitation demand throughout the day. Transit, trails, and parking management programs provide tools to shift use patterns to reduce impacts and to monitor and control demands as appropriate. The system can also scale up or down to meet desired management levels.

	PLAN AHEAD ALTERNATIVE		SAVVY VISITOR ALTERNATIVE		CAR FREE ALTERNATIVE	
	2035 Projected Visitation ¹	2045 Projected Visitation ¹	2035 Projected Visitation ¹	2045 Projected Visitation ¹	2035 Projected Visitation ¹	2045 Projected Visitation ¹
Bus %	47%	47%	61%	61%	90%	90%
Bike %	8%	8%	10%	10%	10%	10%
Vehicle %	45%	45%	29%	29%	0%	0%
Bus Frequency	5-10 Minutes	3-5 Minutes	5 Minutes	2-4 Minutes	3-7 Minutes	2-3 Minutes
Fleet Size	19	48	25	67	38	92
Fleet Size with Spares	26	65	34	90	51	124
Water Taxis						
Projected Fleet Costs (not inclusive of all costs)	\$ 10,260,000	\$ 25,920,000	\$ 13,500,000	\$ 36,180,000	\$ 20,520,000	\$ 49,680,000
Projected Annual Operating Costs	\$ 3,675,200	\$ 12,043,711	\$ 4,137,200	\$ 13,698,273	\$ 4,959,200	\$ 16,474,571

Table 2: Comparative Analysis of Travel Alternatives

¹ Utilizes the Linking Tahoe: Corridor Connection Plan projections of a 1 percent annual visitation increase. Used for analysis purposes only (see narrative in the above green call-out box.)



CHAPTER 5 RECOMMENDED TRAVEL FRAMEWORK



An early morning in fall or spring offers a rare opportunity to enjoy Emerald Bay by bike and see few cars.

OVERVIEW

The travel analysis summarized in Chapter 3 illustrated the need to consider multiple management strategies to accommodate the corridor's visitation and have a transit system that is operationally sustainable. Only using shuttle buses and bike paths for recreation access does not meet the corridor goals. The recommended travel framework expands upon the transit analysis discussed in Chapter 3 and incorporates these management tools:

- Use a reservation system for transit and parking areas to disperse arrival and departure times throughout the day – planning assumption is to distribute the number of people arriving to be within 20 percent of the average or a 35 percent reduction from the peak
- Incorporate water taxi service (that can accommodate some bicycles) to supplement shuttle service access
- Develop transit system that intercepts visitors at both the southern and northern ends of the corridor to allow for short shuttle runs to make more roundtrips with fewer buses
- Connect the transit system to the mainline transit services operating in the South Shore and North Shore to encourage park-once strategies that allow visitors to reach Emerald Bay without ever using a car
- Utilize existing off-highway parking lots and use parking management strategies such as congestion pricing to encourage a car-free corridor experience

The travel framework is recommended to be implemented in three phases. The first phase leverages existing resources such as the underutilized parking area at SnoPark to begin transit service to Emerald Bay. The second phase includes shuttles serving the corridor from both the south and the north and a water taxi route from the north shore to Emerald Bay. The third and final phase increases the frequency of shuttles serving the corridor and incorporates water taxi service from the south shore to Emerald Bay. Each of the phases include additional management strategies and infrastructure projects that are described on the following pages.

The phasing considers those projects that represent quick wins, efforts already funded or have environmental documentation completed, and those strategies that must be set in place as a foundation for other projects to build from. As project funding becomes available, some projects may move up in phasing.

MUIR WOODS NATIONAL MONUMENT CASE STUDY

- Muir Woods National Monument requires a reservation for either a seat on a shuttle to the monument or a parking space at the monument
- The reservations have a timed arrival with no restriction on length of stay
- The system is funded through a \$10 entry fee
- The system has reduced peaks in daily visitation (peak reduced by 45-50 percent)

Emerald Bay Arrival Distribution

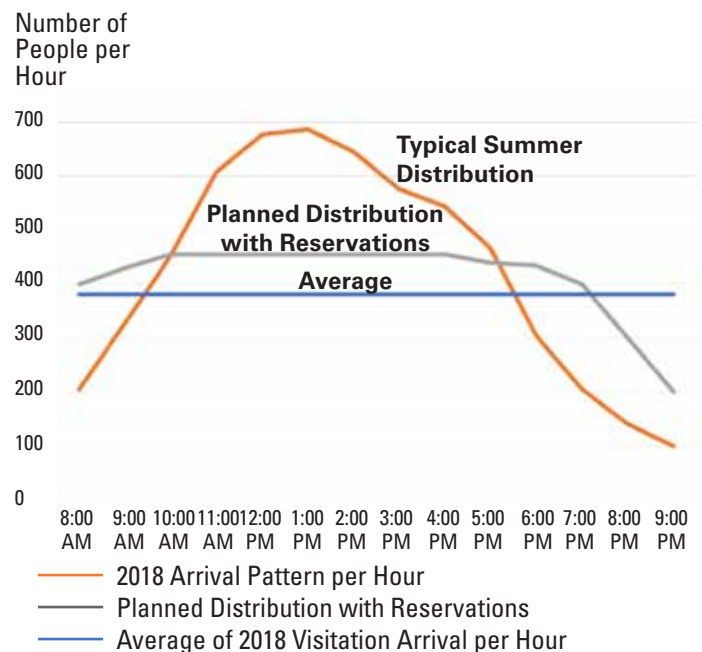
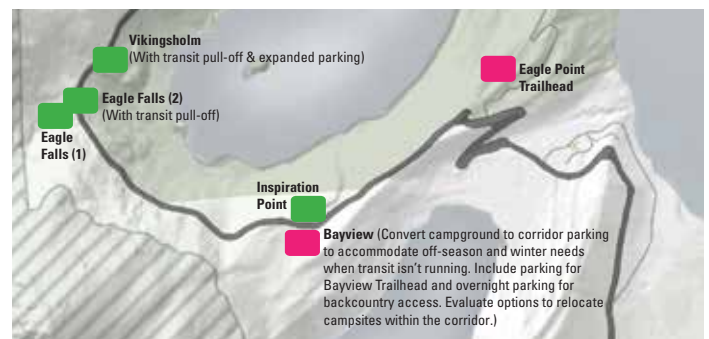


Figure 28: Emerald Bay Arrival Distribution



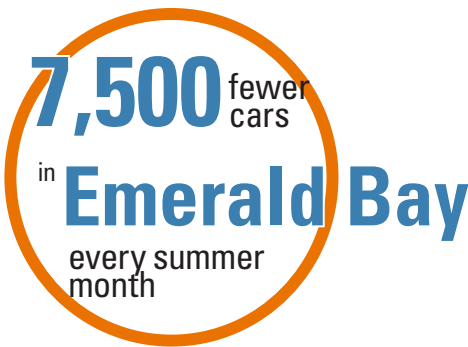
- Vista Parking
 - Reservations and/or metered and congestion-pricing to encourage turnover
 - No overnight parking
- Corridor Parking
 - Reservations and/or metered and congestion-pricing
 - Overnight parking requires permit (parking fee included in permit)

Figure 29: Parking Strategies for Emerald Bay

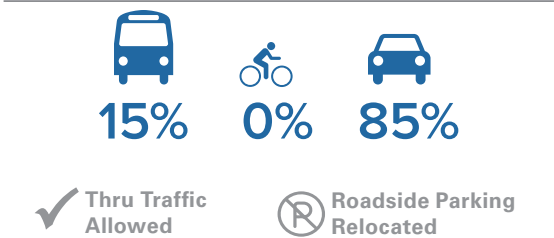
PHASE I TRAVEL FRAMEWORK

The first phase of the travel framework is intended to initiate change in the corridor by temporarily utilizing existing facilities and beginning a transit service for Emerald Bay. A bus will run every 30 minutes from the SnoPark to Emerald Bay. The SnoPark’s proximity to Emerald Bay increases the number of people potentially served and the likelihood of someone stopping to transition to a shuttle. During this phase it is anticipated that some improvement has been made to the manage the congestion associated with Pope Beach and the Jameson Beach Road intersection. In-depth studies will be conducted in this phase to evaluate the Tahoe Trail feasibility and identify a preferred alignment and to identify a permanent park-n-ride/bike location near the Y or West Way. The reservation and parking management system should be established and revenue generation initiated to fund the sytem and corridor improvements.

Projects and operations associated with the Phase I travel framework are summarized in the box on page 84.



How People Arrive to Emerald Bay in the Summer¹



Transit Service

Bus Routes

- SnoPark to Emerald Bay every 30 minutes

<i>Fleet Size</i>	<i>Fleet with Spares</i>	<i>Projected Fleet Costs²</i>	<i>Projected Annual Operating Costs</i>
2	3	\$1,000,000	\$636,000

¹ Percentages based on 2018 Emerald Bay baseline visitation estimate

² Not inclusive of all costs (e.g., electrification, maintenance facility, etc.)

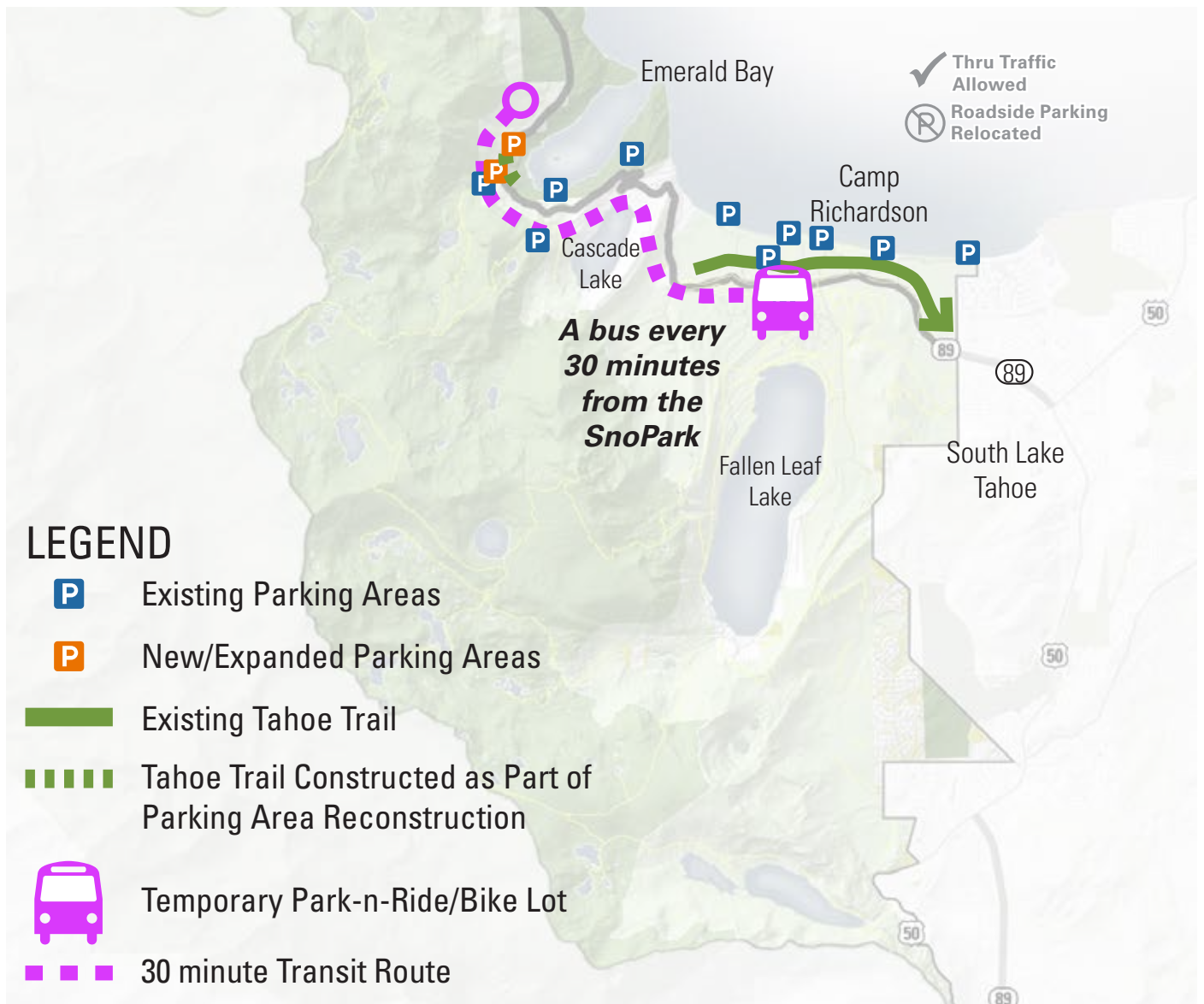


Figure 30: Phase I Travel Framework

Phase I Supporting Infrastructure Projects

Phase I projects associated with the Phase I travel framework include operational, planning, and design efforts that achieve the following:

- Leverage existing resources
- Offer early wins to build momentum for future projects
- Build a platform for operation and coordination in the corridor (e.g., for parking management and transit)
- Evaluate and design project alternatives and opportunities in more detail so they can be constructed in future phases
- Provide facilities needed to support Phase I transit service (enhancements to existing facilities and turnarounds for buses in Emerald Bay)
- Implement projects that have been previously planned and approved
- Improve traffic flow through the Pope to Baldwin Segment

Some projects will be implemented over time and are included in all three phases. For example, improving technology infrastructure and undergrounding utilities may occur as part of other projects and will occur over time in all three phases.

PHASE I SUPPORTING INFRASTRUCTURE AND OPERATIONAL ELEMENTS

- Develop a funding/finance plan with each phase
- Tahoe Trail Feasibility Study
- Evaluate individual site capacities for the corridor, including boat-in capacity for Emerald Bay, and adjust corridor transit and access recommendations based on findings
- Develop reservation, parking management, and revenue system for transit and parking areas and initiate revenue collection
- Utilize a consistent, coordinated system for paid parking at vista points and off-highway parking lots in Emerald Bay
- Reduce roadside parking in Emerald Bay and utilize barriers to assist with increased enforcement and fines for no parking areas

- Phase I point source congestion management strategies for Pope Beach Road and Jameson Beach Road intersections/recreation areas to improve traffic flows and encourage transit use
- Transit stops at Eagle Point Campground, Inspiration Point, Eagle Falls Viewpoint, Vikingsholm
- Transit turnaround improvements near Emerald Bay's north gate
- Project Study Report completion for year-round access and road design improvements through Emerald Bay
- Improve the Vikingsholm and Eagle Falls parking lots, develop transit stops, and link facilities with the Tahoe Trail from the vista lookout past the Vikingsholm parking lot
- Northbound viewpoint parking near Eagle Falls
- Improve SnoPark area for bus circulation and delineate parking
- Convert future emergency pull-outs and viewpoints in Emerald Bay to temporary parking – pave and install temporary meters
- Jameson Beach Road shared use path
- Baldwin Beach Road shared use path
- Pope Beach Road shared use path
- Utilize ITS advance signage & marketing of transit route
- Real-time transit and parking app
- Increased operation budgets
- Evaluate park-n-ride/bike locations at the Y and West Way
- Improve Fallen Leaf Road for emergency and recreation access
- Helipad site designation west of Bayview campground
- Recreation corridor gateway signage and consistent wayfinding and marketing program
- Improved technology infrastructure
- Utility undergrounding
- Incorporate wildlife crossings with Caltrans bridge replacement near Meeks Bay

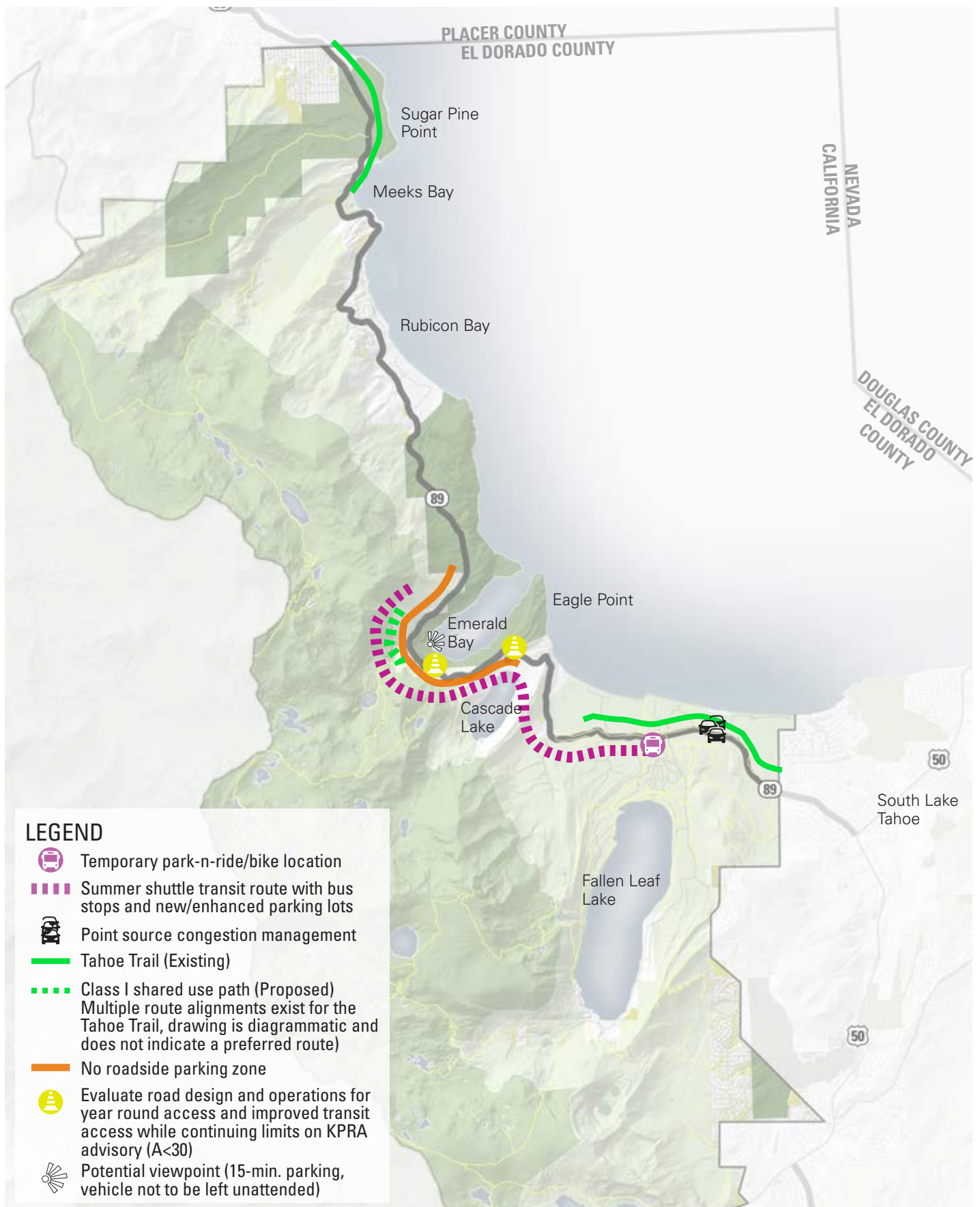
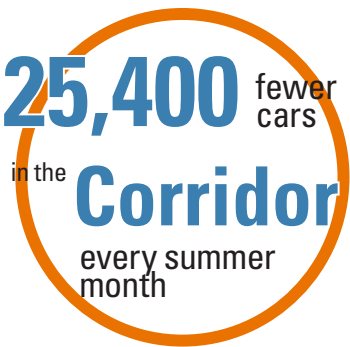


Figure 31: Recommended Projects | Phase I

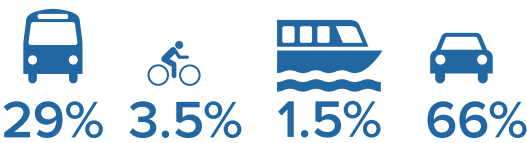
PHASE II TRAVEL FRAMEWORK

The second phase of the travel framework establishes more permanent transit service through the corridor with park-n-ride/bikes located at both the southern and northern ends of the corridor. Buses run every 15 minutes from the south end to Emerald Bay and every 30 minutes from the north to Emerald Bay. A subsidized, private water taxi with the ability to accommodate some bicycles operates from the north and south shores and sections of the Tahoe Trail have been completed from the south and the north to Emerald Bay. It is recognized that private water taxis present an opportunity to help meet corridor goals and provide visitor experience benefits, but they are not a substitute for public transit.

Projects and operations associated with the Phase II travel framework are summarized in the box on page 88.



How People Arrive to the Corridor in the Summer¹



- ✓ Thru Traffic Allowed
- Ⓟ Roadside Parking Relocated

Transit Service

Bus Routes

- Y to Emerald Bay every 15 minutes
- Sugar Pine to Emerald Bay every 30 minutes

Water Taxi Routes

- South Shore: 1 boat running every 2 hours from 10:30-6:30 (from Camp Richardson to Emerald Bay)
- North Shore: 1 boat running every 2 hours from 10:30-6:30 (from Homewood or Sugar Pine Point State Park to Emerald Bay)

Fleet Size	Fleet with Spares	Water Taxis	Projected Fleet Costs ²	Projected Annual Operating Costs
7	9	1	\$9,500,000	\$2,444,000

¹ Percentages based on 2018 Emerald Bay and Pope to Baldwin Segment baseline visitation estimate

² Not inclusive of all costs (e.g., electrification, maintenance facility, etc.)

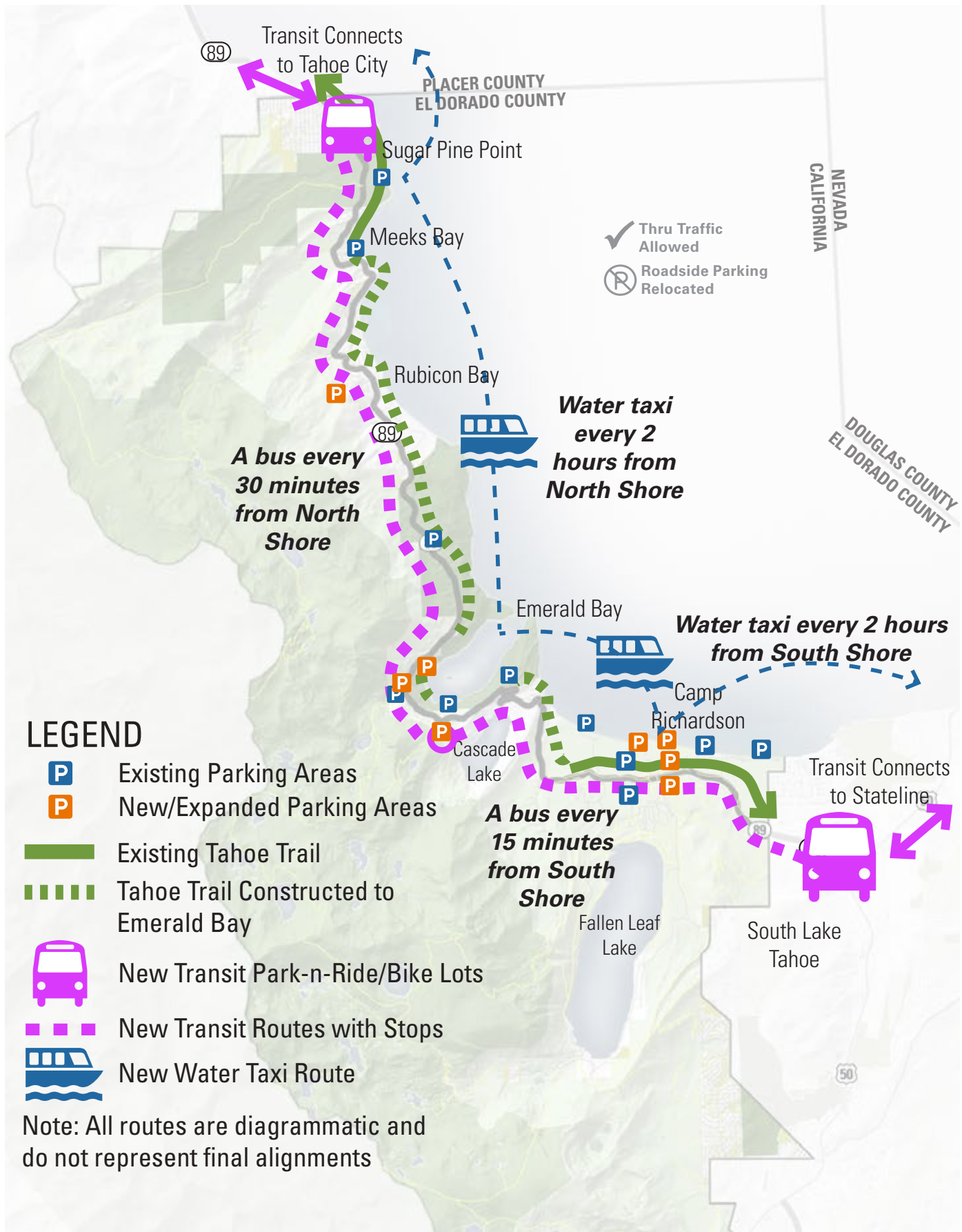


Figure 32: Phase II Travel Framework

Phase II Supporting Infrastructure Projects

Phase II projects include operational, planning, and design efforts that achieve the following:

- Provide facilities needed to support transit service (park-n-rides/bike, piers, and bus stops)
- Construct Tahoe Trail segments that allow for bike access to Emerald Bay
- Implement projects that have been previously planned and approved
- Improve the capacity for bike access to the Pope to Baldwin Segment
- Continue improvements for traffic flow through the Pope to Baldwin Segment
- Monitor and evaluate improvements and address visitation demands through a regional study

Some projects will be implemented over time and are included in all three phases. For example, improving technology infrastructure and undergrounding utilities may occur as part of other projects and will occur over time in all three phases.

PHASE II SUPPORTING INFRASTRUCTURE AND OPERATIONAL ELEMENTS

- Monitor and assess Phase I projects, access patterns, visitor experience, and operations – adjust below recommendations and marketing strategies based on findings
- Develop a funding/finance plan with each phase
- Tahoe Trail segments implemented: Spring Creek Road to Eagle Point Campground and Boat-in-Campground Road to Meeks Bay
- Develop public/private partnership with water taxi to supplement access
- Phase II transit service
- Restrict roadside parking in Emerald Bay and Pope to Baldwin Segments and utilize barriers to assist with increased enforcement of no parking areas
- Phase II transit stops throughout corridor
- Phase II reservation and parking management and fee system

- Develop a park-n-ride/bike in the Y area or by West Way and connect transit system to South Lake Tahoe's transit mainline
- Formalize a park-n-ride/bike at Sugar Pine Point State Park and connect transit system to North Lake Tahoe's transit mainline
- Phase II point source congestion management strategies for Pope Beach Road and Jameson Beach Road intersections/recreation areas
- Convert Bayview campground to small parking/bus pull-off that will also provide off-highway parking for the off-season and winter when transit is not running (40-70 spaces); design parking to accommodate a limited number of tour buses with restricted size; evaluate options to relocate Bayview campsites with the corridor
- Construct or improve piers (Sugar Pine Point State Park, Emerald Bay, and Camp Richardson) and increase operations budget to accommodate water taxi service
- Implement LTBMU planned parking and circulation projects in Pope to Baldwin Segment
- Increase capacity for cyclist access to Camp Richardson, consider developing a cycle track or expanding the bike path
- Evaluate trail access needs and options in alignment with local plans
- Operational measures to allow for off-season and winter access to strategic parking lots
- Formalize emergency turnouts
- Gardner Mountain trail access
- Conduct a regional visitation strategy
- Increased operation budgets
- Improved technology infrastructure
- Utility undergrounding
- Incorporate wildlife crossings where possible
- Develop a South Shore transit maintenance facility

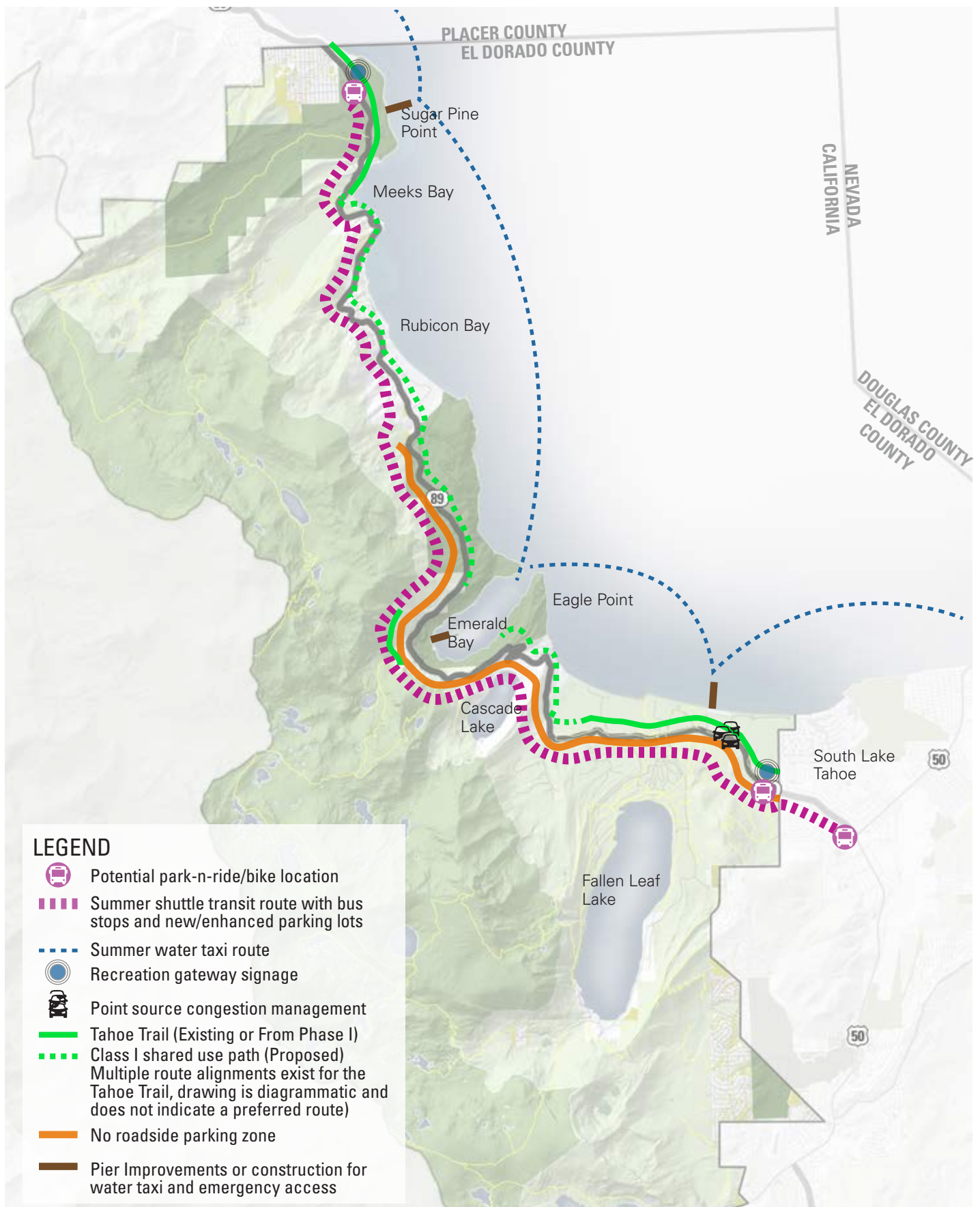


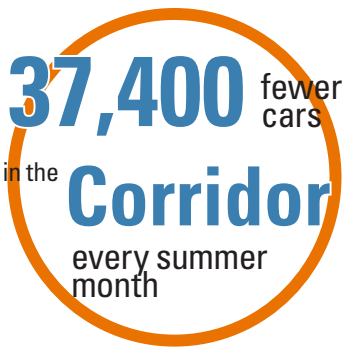
Figure 33: Recommended Projects I Phase II

PHASE III TRAVEL FRAMEWORK

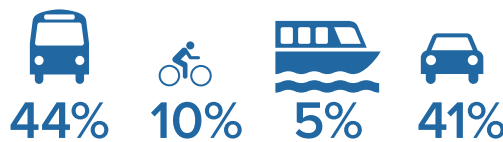
The third and final phase of the travel framework increases transit service and sees the completion of the Tahoe Trail around Emerald Bay. Buses run every 15 minutes from both the south and north park-n-ride/bikes to Emerald Bay. Water taxis also operate from the north shore and south shore to serve Emerald Bay. Additional projects and operations are summarized in the box below.

The transit model has the capacity to accommodate visitation growth of a modest 5 percent. The system can scale up or down to meet desired management levels. For example, additional people could be accommodated by increasing the number of buses or water taxis in service or increasing parking management techniques to encourage turnover and reduce length of stays. The Phase III fleet size and costs represent an operationally sustainable transit model and additional visitation could exceed the capacity of recreation areas. Outcomes of the individual site capacity studies conducted in Phase I and the regional visitation study completed in Phase II should be considered when evaluating whether to accommodate additional visitation or to scale down the transit system based on management needs and natural and cultural resource impacts.

Projects and operations associated with the Phase III travel framework are summarized in the box on page 92.



How People Arrive to the Corridor in the Summer¹



- ✓ Tahoe Trail Completed
- ✓ Thru Traffic Allowed
- Ⓟ Roadside Parking Relocated

Transit Service

Bus Routes

- Y to Emerald Bay every 15 minutes
- Sugar Pine to Emerald Bay every 15 minutes

Water Taxi Routes

- South Shore: 2 boats running hourly from 10:30-6:30
- North Shore: 1 boat running every 2 hours from 10:30-6:30 (from Homewood or Sugar Pine Point State Park to Emerald Bay)

Fleet Size	Fleet with Spares	Water Taxis	Projected Fleet Costs ²	Projected Annual Operating Costs
9	12	3	\$13,500,000	\$3,193,200

¹ Percentages based on 2018 Emerald Bay and Pope to Baldwin Segment baseline visitation estimate

² Not inclusive of all costs (e.g., electrification, maintenance facility, etc.)

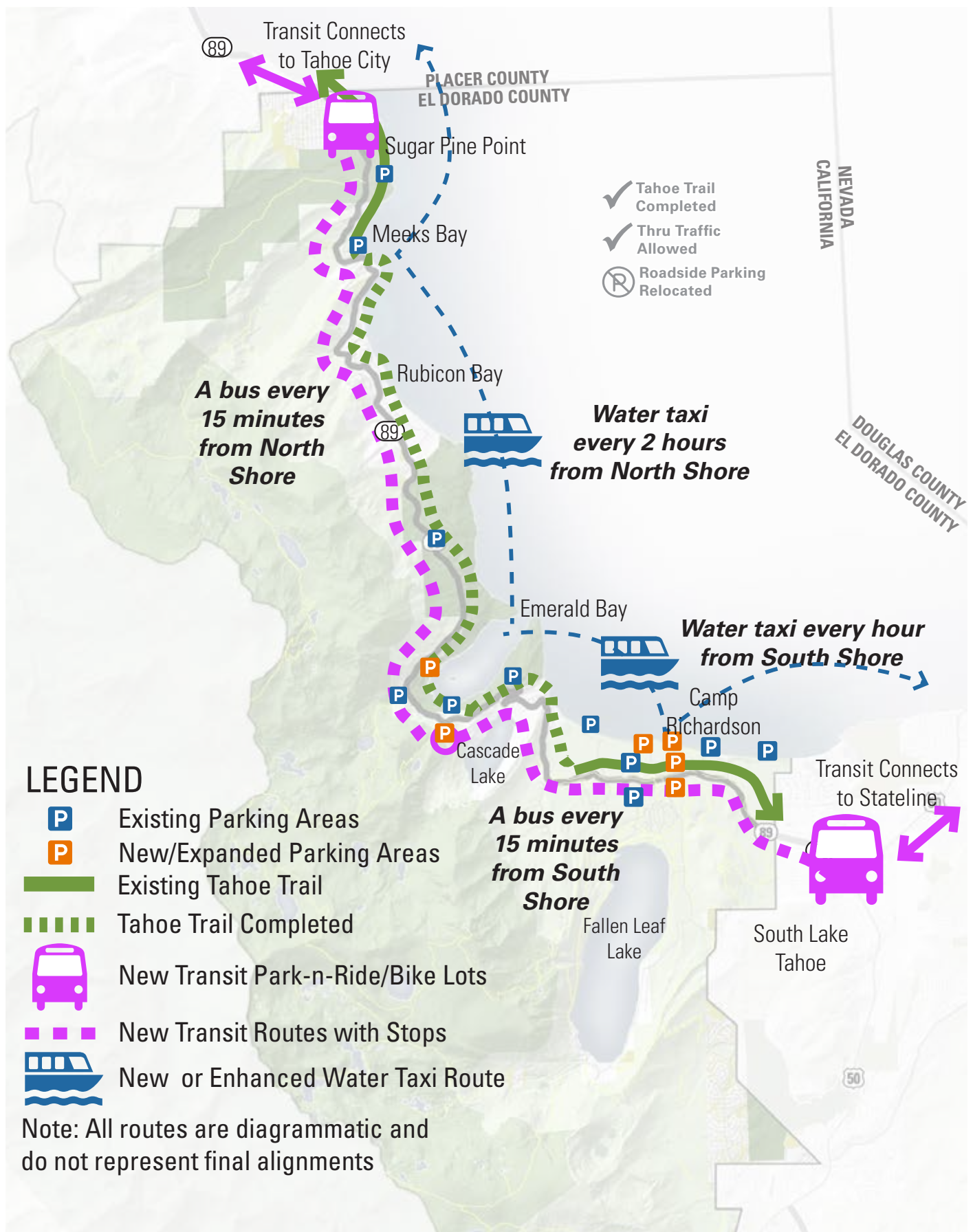


Figure 34: Phase III Travel Framework

Phase III Supporting Infrastructure Projects

Phase III projects include operational, planning, and design efforts that achieve the following:

- Enhance and fine tune transit support facilities, operations, and parking management
- Construct Tahoe Trail segment around Emerald Bay
- Continue improvements for traffic flow through the Pope to Baldwin Segment
- Monitor and evaluate improvements and adjust to ensure corridor objectives are met

Some projects will be implemented over time and are included in all three phases. For example, improving technology infrastructure and undergrounding utilities may occur as part of other projects and will occur over time in all three phases.

PHASE III SUPPORTING INFRASTRUCTURE AND OPERATIONAL ELEMENTS

- Monitor and assess Phase II projects, access patterns, visitor experience, and operations – adjust below recommendations and marketing strategies based on findings
- Develop a funding/finance plan with each phase
- Complete the Tahoe Trail around Emerald Bay
- Increase partnership with water taxi to supplement access
- Phase III transit service and roadside parking relocations with temporary parking improvements
- Phase III reservation and parking management and fee system
- Expand park-n-ride/bike facilities in the Y area or by West Way
- Phase III point source congestion management strategies for Pope Beach Road and Jameson Beach Road intersections/recreation areas
- Evaluate need for a small parking area (15 spaces) by north Emerald Bay gates for off-season/winter access
- Formalize emergency turnouts
- Increased operation budgets
- Improved technology infrastructure
- Utility undergrounding
- Incorporate wildlife crossings where possible
- Consider bike lanes or widened shoulders throughout corridor
- Monitor roadside parking impacts and consider relocating/restricting roadside parking near Meeks Bay Resort and Sugar Pine Point State Park when alternative access is provided through transit and bike facilities

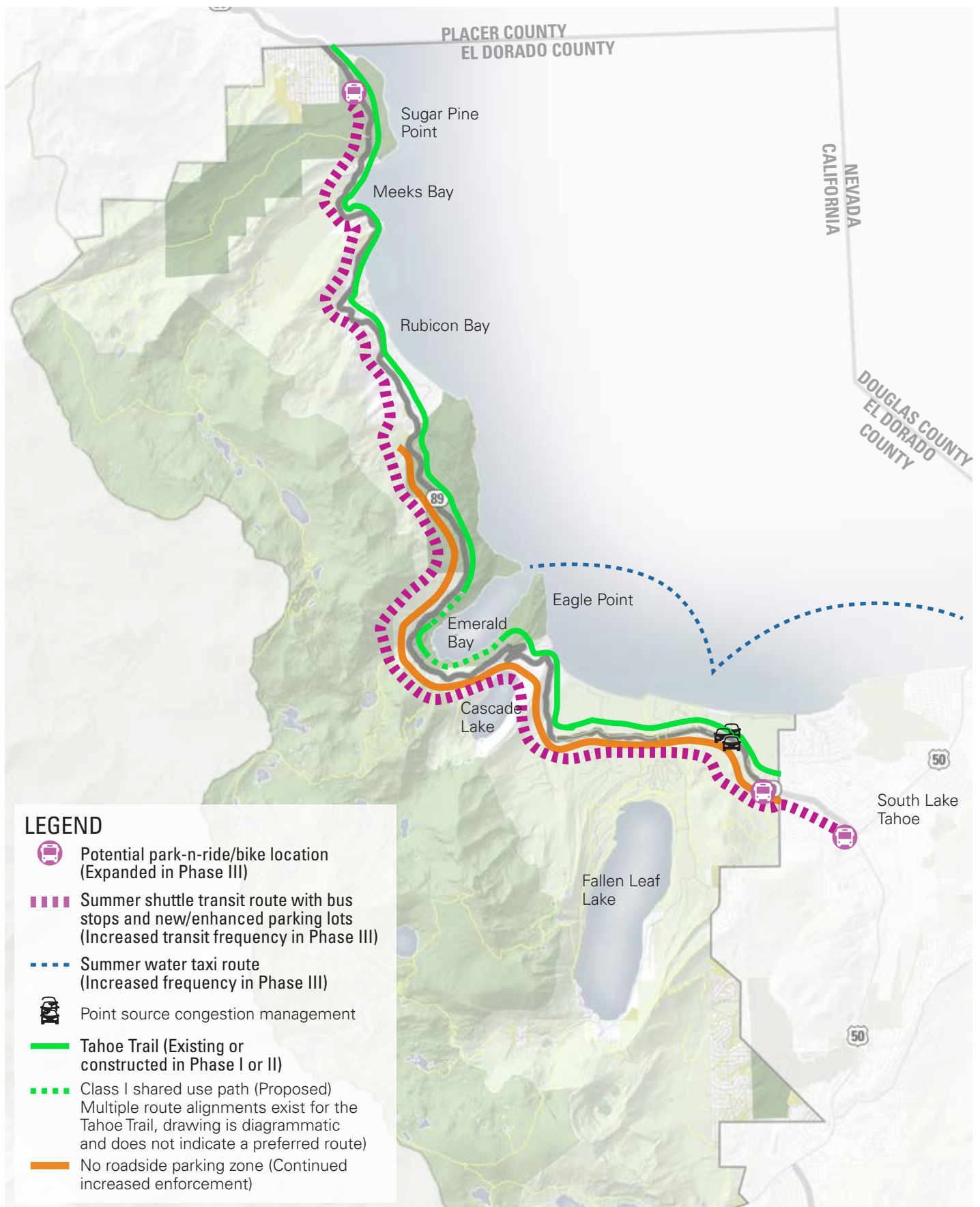
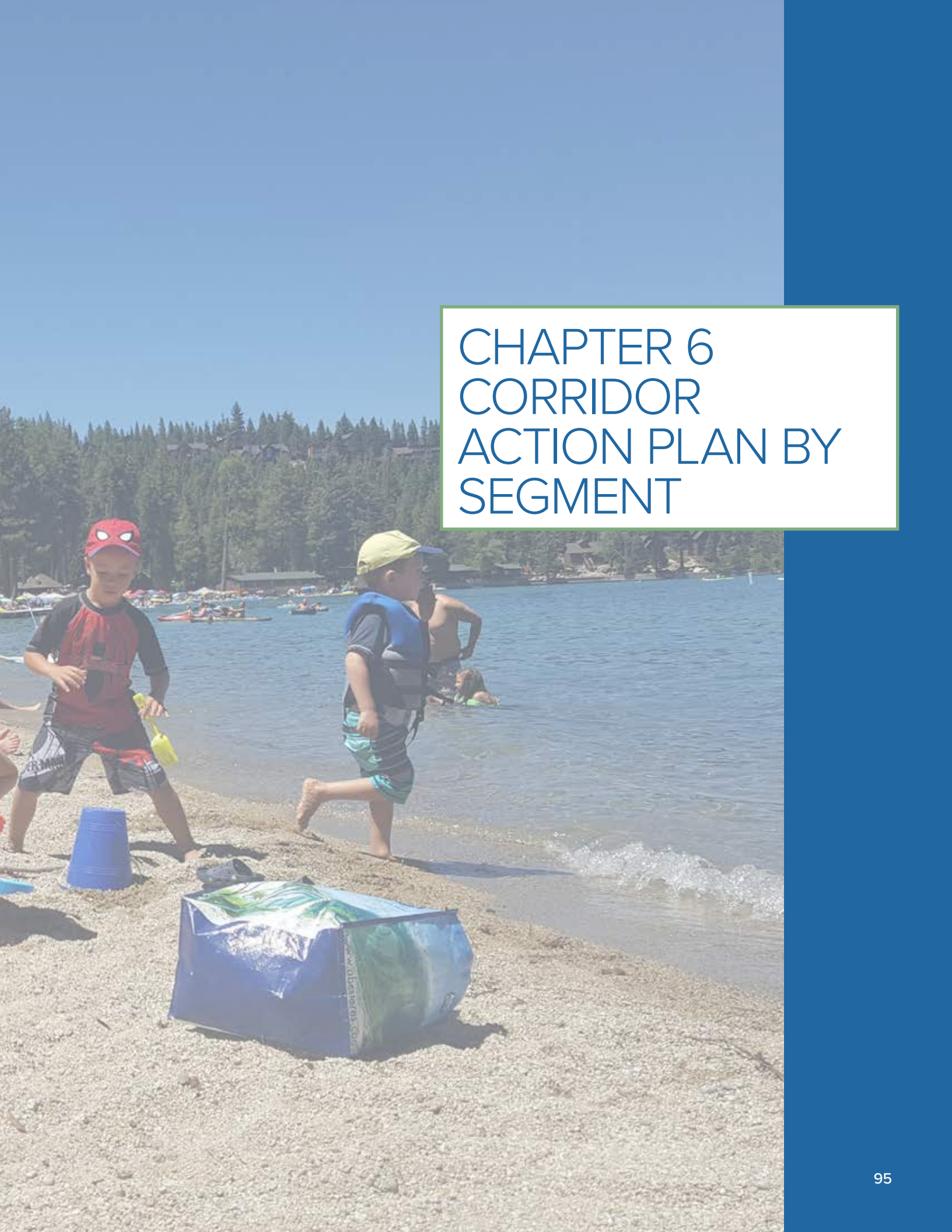


Figure 35: Recommended Projects | Phase III

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CHAPTER 6 CORRIDOR ACTION PLAN BY SEGMENT



Corridor recreation activities range from beach going, site seeing, hiking, and biking, to backcountry camping and skiing.

OVERVIEW

This Chapter summarizes, by segment, the recommended infrastructure and planning projects that support the recommended strategies presented in Chapter 3 and the travel framework described in Chapter 5. A project list is included in the appendix for easy referencing and updating as results are monitored and tactics modified and adjusted. The project list builds upon the strategies and actions developed in the RTP and the LTCCP and projects that have been reviewed and approved through separate planning and design processes.

The project list provided in the appendix organizes the action steps by corridor location. First the corridorwide projects are discussed and then the projects for each segment are included, starting from the south and working toward the north. The appendix matrix includes the project category, potential phasing, anticipated project lead(s), and potential project partners.

Similarly, this chapter presents the projects first from a corridorwide perspective. Second it illustrates and lists the projects by corridor segment (south to north).

CORRIDORWIDE PROJECTS

Corridorwide projects establish the foundation for coordinated management of the corridor. Projects included in this summary may be implemented within an individual segment but also represent the overall approach to address corridor issues. For example, conducting a feasibility study for the Tahoe Trail encompasses efforts to identify overall trail connectivity from Spring Creek Road north to Meeks Bay. Individual segments for completion of the Tahoe Trail are specifically listed in each corridor segment. A list of projects to occur throughout the corridor is shown in the box to the right.

Corridor Recommendations



Completion of the Tahoe Trail



Transit & reservation system during the summer months and peak weekends



Roadside parking restricted/relocated with increased enforcement and fine



Recreation zone speed limit developed for peak season



Point source congestion management at Pope Beach Road and Jameson Beach Road



Winter and off-season access improvements/year-round recreation access for backcountry and site-seeing needs



Technology infrastructure



Increased operational resources and coordinated management approach

CORRIDORWIDE PROJECTS

- Develop a funding/finance plan with each phase
- Conduct Tahoe Trail Feasibility Study
- Evaluate individual site capacities for the corridor, including boat-in capacity for Emerald Bay, and adjust corridor transit and access recommendations based on findings
- Phase I, II, and III transit service and roadside parking relocations with temporary parking improvements
- Consider bike lanes or widened shoulders throughout corridor
- Reservation, parking management and fee system framework and revenue collection
- ITS and shuttle marketing
- Real-time transit and parking app
- Increased operation budgets
- Formalize emergency turnouts
- Operational measures to allow for off-season and winter access to strategic parking lots
- Increase technology infrastructure
- Utility undergrounding
- Incorporate wildlife crossing improvements, where appropriate
- Develop a South Shore transit maintenance facility (likely built outside of the corridor, but impacts feasibility for transit service)
- Wayfinding
- Real-time visitor information
- Conduct a regional visitation strategy
- Recreation corridor gateway signage and consistent wayfinding and marketing program

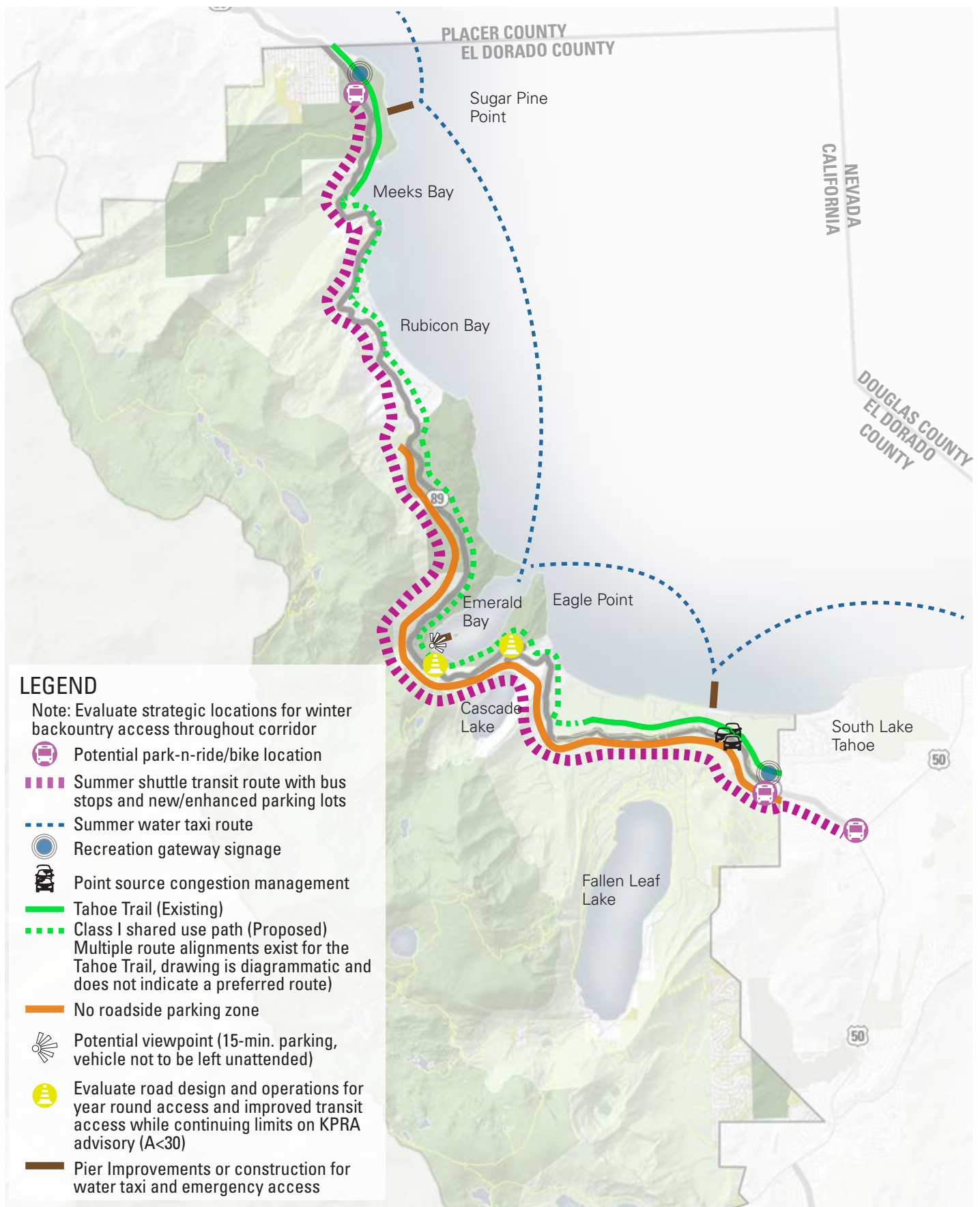


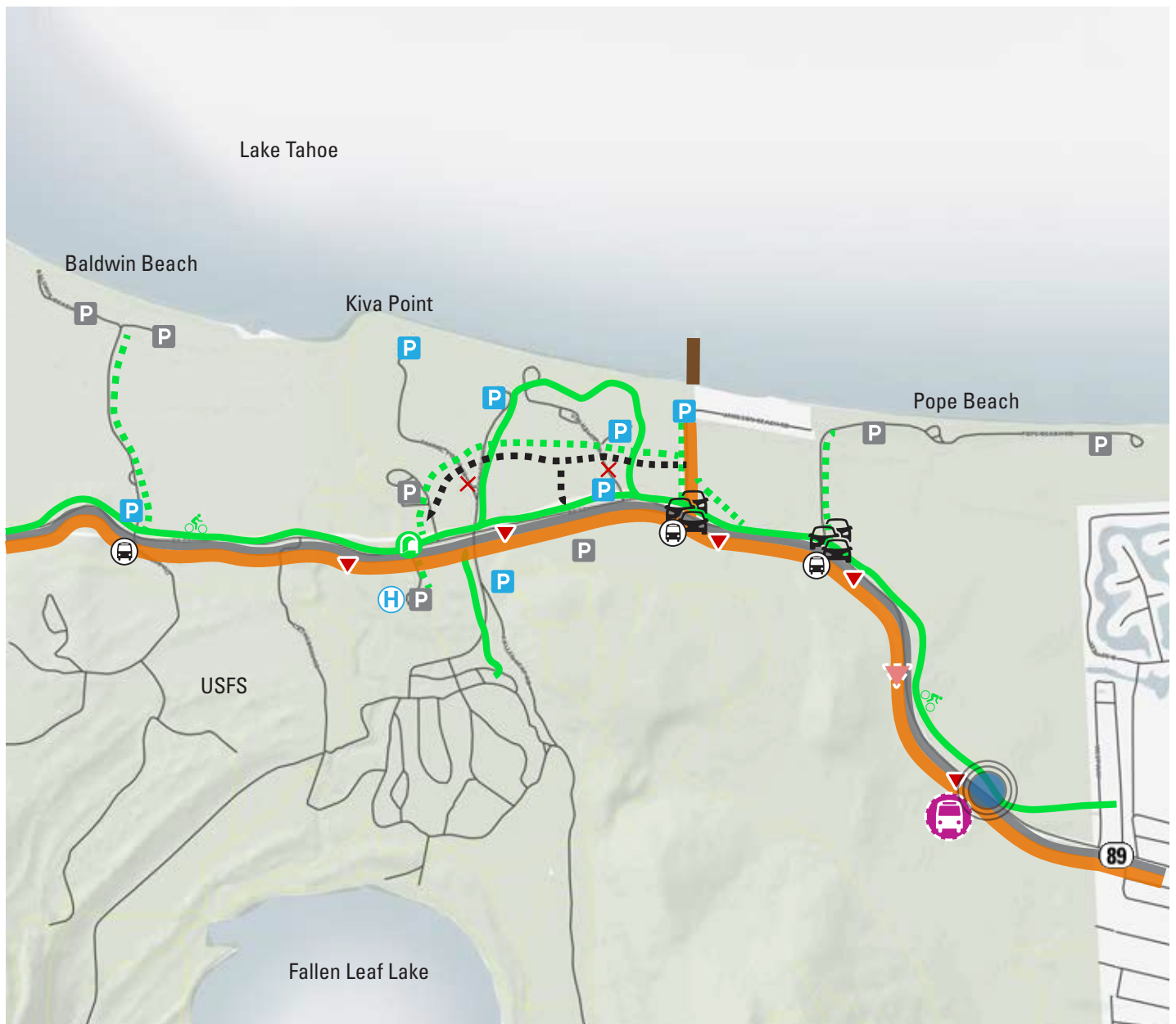
Figure 36: Recommended Projects | Corridorwide

POPE TO BALDWIN SEGMENT | PROJECTS

Projects in the Pope to Baldwin Segment include facilities and tactics that address congestion associated with entry into Pope Beach, pedestrians crossing at Jameson Beach Road, and cars trolling the highway looking for parking. In addition to the projects recommended to support transit services, active transportation facilities such as new Class I shared use paths and the potential for a seasonal cycle track, are included. A list of projects to occur in the Pope to Baldwin Segment is shown in the box to the right.

PROJECTS SUMMARY FOR POPE TO BALDWIN SEGMENT

- Phase I, II, and III transit service and roadside parking relocations with temporary parking improvements
- Phase I, II, and III point source congestion management strategies for Pope Beach Road and Jameson Beach Road intersections/recreation areas
- SnoPark parking and temporary transit stop improvements
- Jameson Beach Road shared use path
- Baldwin Beach Road shared use path
- Pope Beach Road shared use path
- Implement LTBMU planned parking and circulation projects in Pope to Baldwin Segment
- Develop bus stops at Pope Beach Road, Jameson Beach Road, and Baldwin Beach Road
- Improve Camp Richardson pier and increase operations budget to accommodate water taxi service
- Evaluate park-n-ride/bike locations at the Y and West Way, construct improvements during Phase II and Phase III
- Improve Fallen Leaf Road for emergency and recreation access
- Increase capacity for cyclist access to Camp Richardson
- Gardner Mountain trail access
- Formalize emergency turnouts
- Operational measures to allow for off-season and winter access to strategic parking lots
- Increase technology infrastructure
- Incorporate wildlife crossing improvements, where appropriate
- Develop parking lots at Spring Creek Road and Fallen Leaf Lake Road
- Analyze Eagle's Nest Campground entry for possible operational improvements to hold a larger queue



LEGEND

- | | | | |
|--|---|--|---|
| | Potential park-n-ride/bike location | | Emergency/Maintenance turnout (Formalize existing) |
| | Bus stop (Proposed) | | Emergency/Maintenance turnout (Proposed) |
| | Parking lot (Existing) | | Recreation gateway signage |
| | Parking lot (Expanded or formalized) | | Pier Improvements for water taxi and emergency access |
| | Tahoe Trail (Existing) | | Point source congestion management |
| | Class I shared use path (Proposed) | | Helipad/emergency helicopter landing area (Existing) |
| | Grade separated crossing for pedestrians and cyclists | | |
| | Internal road circulation (Proposed) | | |
| | No roadside parking zone | | |

Figure 37: Recommended Projects | Pope to Baldwin Segment

EMERALD BAY SEGMENT | PROJECTS

Projects in the Emerald Bay Segment support efforts to move toward a more car-free experience in Emerald Bay and the construction of the Tahoe Trail in this segment. The conversion of Bayview Campground to a small parking area with transit facilities is recommended. Opportunities to relocate the campsites within the corridor should be evaluated. The additional parking should be limited in scope and is intended to meet the recreation demand for off-season access when transit would not be running. A feasibility study is recommended to identify potential Tahoe Trail routes and a Project Study Report is recommended to evaluate opportunities to keep the highway open year-round through this segment. Winter access to recreation sites is important, as well as providing emergency access facilities.

A list of projects to occur in the Emerald Bay Segment is shown in the box to the right.

PROJECTS SUMMARY FOR EMERALD BAY SEGMENT

- Develop Tahoe Trail segment from D.L. Bliss to and around Emerald Bay and south to Spring Creek Road, with grade-separated crossing(s), if needed; underground powerlines and co-locate technology infrastructure
- Phase I, II, and III transit service and roadside parking relocations with temporary parking improvements
- Transit turnaround improvements near Emerald Bay's north and south gates
- Project Study Report completion for year-round access and road design improvements through Emerald Bay
- Vikingsholm vista parking improvements with northbound bus stop
- Develop bus stops at Eagle Falls, Inspiration Point/Bayview campground, and Eagle Point campground (bundle with Vikingsholm project)
- Improve pier and increase operations budget to accommodate water taxi service
- Bayview campground conversion to small parking for off-season and winter access with summer transit stop; design parking to accommodate a limited number of tour buses; evaluate options to relocate campsites within the corridor
- Northbound viewpoint parking near Eagle Falls
- Helipad site designation west of Bayview campground
- Formalize emergency turnouts
- Operational measures to allow for off-season and winter access to strategic parking lots
- Increase technology infrastructure
- Incorporate wildlife crossing improvements, where appropriate
- Manage visitation to protect cultural and natural resources such as Fannette Island
- Evaluate need for off-season parking area north of Vikingsholm on LTBMU property
- Conceptual route for a north/south multi-use trail connector

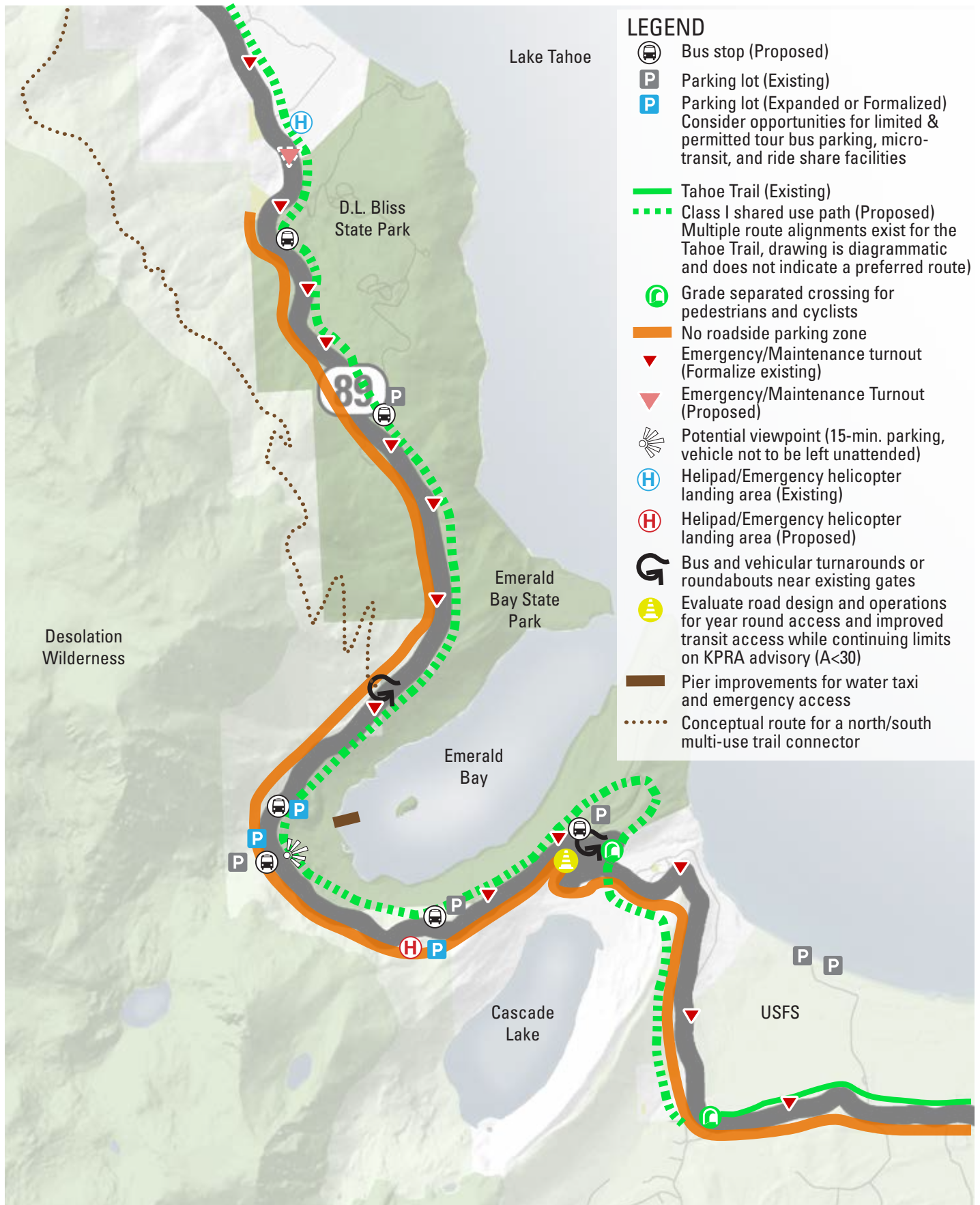


Figure 38: Recommended Projects | Emerald Bay Segment

RUBICON BAY SEGMENT | PROJECTS

Routing and constructing the Tahoe Trail is the primary project for the Rubicon Bay Segment. A list of projects is shown in the box to the right.

West Shore Tahoe Trail Goals

Goal

Design and construct a premiere shared-use path along Lake Tahoe's west shore as part of a separated bikeway network circling Lake Tahoe.

Objectives

- Create a separated, shared-use path to promote active transportation, better manage auto congestion, disperse recreation, and complete the Tahoe Trail.
- Provide a separated, shared-use path that provides a high-quality user experience.
- Serve a broad spectrum of users by meeting American Association of State Highway and Transportation Officials (AASHTO) and American with Disabilities Act and Architectural Barriers Act (ADA/ABA) design standards, and other relevant accessibility standards.
- Provide new high quality, sustainable recreation opportunities that disperse recreation demand while protecting the quality, integrity, and character of existing recreation opportunities; protecting natural resources; and improving water quality.

Design Principles

- Identify and provide buildable and convenient connections to communities, public facilities, public lands, the lakeshore, and open space. Consider connections to other projects identified in the CMP.
- Identify opportunities to restore and enhance water quality and reduce storm water pollution through design and construction of the trail.
- Maximize the percentage of trail segments that are Class 1, identify segments where Class 4 trails can replace Class 2 trails.
- Serve both recreation and commuter needs, with recreation needs receiving first priority where trade-offs must be made.
- Provide for a variety of bicycle and pedestrian users on the trail, while recognizing and managing potential conflicts.

PROJECTS SUMMARY FOR RUBICON BAY SEGMENT

- Develop Tahoe Trail segment from Meeks Bay to D.L. Bliss with grade-separated crossing(s), if needed; underground powerlines and co-locate technology infrastructure
 - Formalize emergency turnouts
 - Provide winter recreation access parking
 - Increase technology infrastructure
 - Incorporate wildlife crossing improvements
 - Evaluate trail access needs and options in alignment with local plans
 - Evaluate options for a multi-use trail connector
-
- Provide adequate public and private support facilities, such as restrooms, garbage, and wayfinding.
 - Remain sensitive to the cultural resources and natural resources in the corridor.
 - Consider social and economic benefits of the trail.
 - Provide interpretive opportunities along the trail for natural, cultural, and historic resources.
 - Minimize the number of crossings of SR-89, crossings should be over or under the highway when feasible.
 - Where appropriate, use and enhance existing disturbed area, such as old logging and fire access roads, and take advantage of joint parking opportunities, such as at school sites.
 - Include opportunities for universal accessibility.
 - Provide visitor amenities, such as rest areas and vistas, to make the bikeway an enjoyable experience.
 - Implement signage and naming consistent with the collaborative work of the Lake Tahoe Pathway Partnership.
 - Identify public utilities early in the process and potential for co-location and undergrounding of utility lines.
 - Identify opportunities to collocate conduit for communication systems and fiber optic within trail footprint.
 - Respect private property rights.
 - Reduce noise impacts from trail usage.

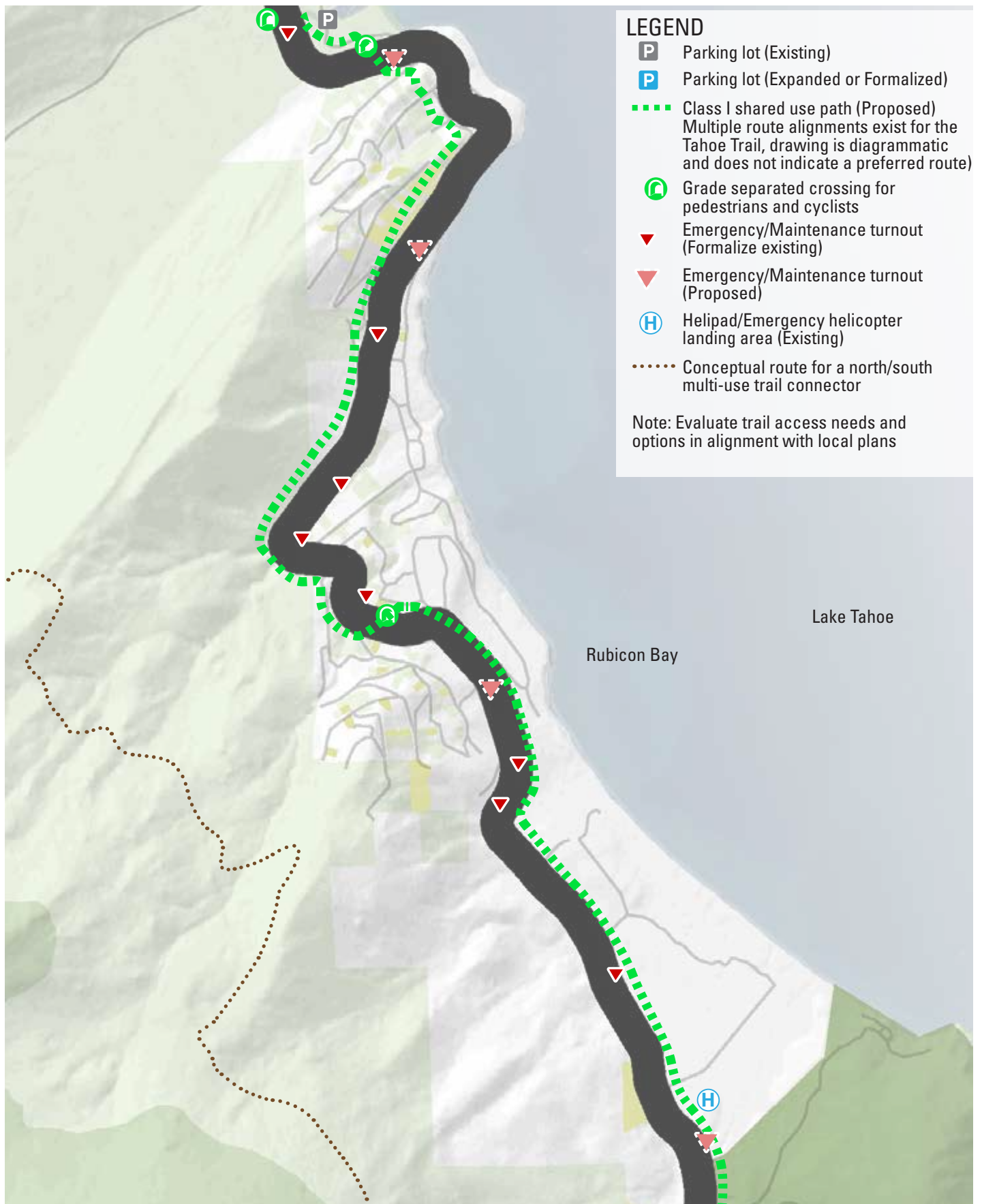


Figure 39: Recommended Projects | Rubicon Bay Segment

MEEKS BAY SEGMENT | PROJECTS

Routing and constructing the Tahoe Trail through Meeks Bay is a key project for this segment. Conceptual alternatives for the trail are shown in the appendix, but these and other alternatives may be studied in more detail during the feasibility study. The roadside parking outside of the resort should be monitored and overtime, the parking may be restricted with preferred access from transit and bike.

The Meeks Bay ecosystem restoration project is currently underway and will include planning and environmental review. The primary purpose of the project is to move the Meeks Creek stream channel and wetland/lagoon below SR 89 to a more natural condition where geomorphic and hydrologic processes support a functioning ecosystem while continuing to support sustainable recreation opportunities. The alignment of the Tahoe Trail through Meeks Bay will be considered as part of the project.

A list of projects to occur in the Meeks Bay Segment is shown in the box to the right.

PROJECTS SUMMARY FOR MEEKS BAY SEGMENT

- Develop Tahoe Trail segment within Meeks Bay with grade-separated crossing, if needed; underground powerlines and co-locate technology infrastructure
- Develop bus stop at Meeks Bay
- Relocate roadside parking when alternative access is provided through transit and bike options
- Replace Caltrans bridge and incorporate capacity for wildlife crossing and pedestrian/bike use
- Formalize emergency turnouts
- Provide winter recreation access parking
- Increase technology infrastructure

SUGAR PINE POINT SEGMENT | PROJECTS

The Sugar Pine Point Segment has an opportunity to serve as a gateway to the recreation corridor from the north. In addition to a visual entry, its role as a park-n-ride/bike location offers a central location for visitors to leave their car and explore the rest of the corridor via transit or bike. The roadside parking outside of the state park should be relocated/restricted when alternative access is provided through transit and bike options.

A list of projects to occur in the Sugar Pine Point Segment is shown in the box to the right.

PROJECTS SUMMARY FOR SUGAR PINE POINT SEGMENT

- Enhance existing parking to serve as northern park-n-ride/bike location
- Develop bus stop at Sugar Pine Point State Park
- Improve pier and increase operations budget to accommodate water taxi service, with the ability to carry some bicycles
- Formalize emergency turnouts
- Provide winter recreation access parking
- Develop a recreation gateway
- Increase technology infrastructure
- Incorporate wildlife crossing improvements, where appropriate
- Relocate roadside parking when alternative access is provided through transit and bike options

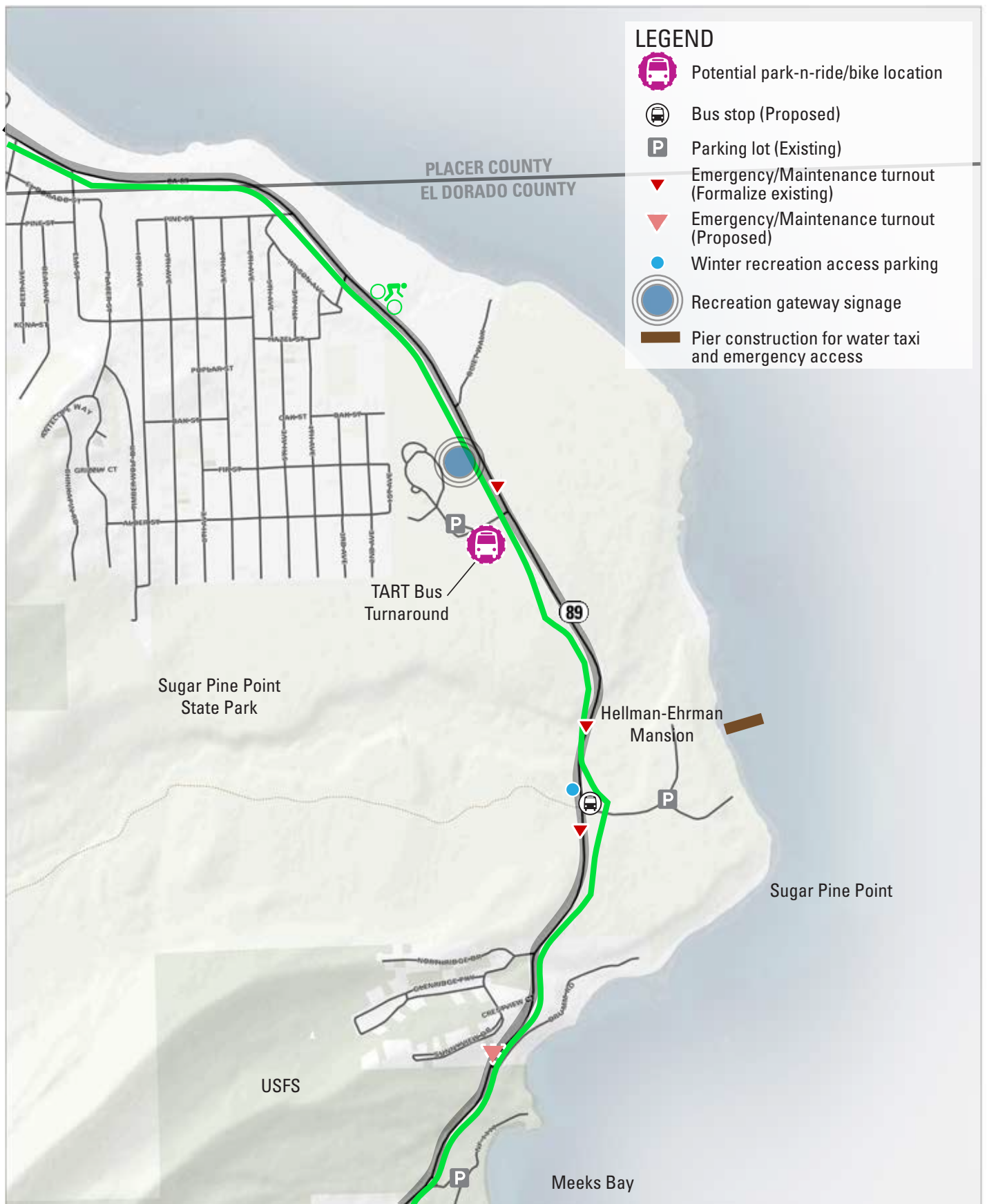


Figure 41: Recommended Projects | Sugar Pine Point Segment

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A scenic view of a lake with turquoise water, a sandy beach, and evergreen trees under a clear blue sky. The water is crystal clear, showing the rocky bottom. The beach is a mix of sand and small stones. In the background, there are several tall evergreen trees and a small wooden cabin. The sky is a deep blue with a few wispy clouds.

CHAPTER 7 VISITOR TRAVEL EXPERIENCE

VISITOR EXPERIENCE CYCLE

In June 2018, a “Guestology” workshop was facilitated with the stakeholder group. “Guestology” represents the technical factors affecting a particular destination’s visitor/guest experience, such as the width of a pathway, the size of a parking area, and the number of visitors a facility can accommodate at one time. In the design process, these calculations greatly influence visitor satisfaction levels and return intent, as they impact the quality of the overall visit. Well-designed facilities provide efficiencies for visitors and allow them to remain focused on their experience. Poorly-designed infrastructure and amenities can lead to crowding, wait lines, time losses, and other negative factors which distract from the experience, and can lead to poor satisfaction levels, negative word-of-mouth, and low return intent.

During the workshop, the concept of the Visitor Experience Cycle (VEC) was introduced. The VEC defines the visitor experience in five phases, which are cyclical in nature. The five phases within the cycle are as follows:

Anticipation Phase: This is the period in which the visitor’s very spark of an intent to visit comes to mind, and all the pre-arrival efforts take place: choosing their destination, evaluating options, formulating itineraries, and making reservations. During this phase, destination operators are also reaching out to prospective visitors with marketing information and incentives.

Arrival Phase: This phase represents all elements in the visitors’ transit from their home, hotel, etc. to their destination; including roadways and pathways, wayfinding signage, parking, ticket purchasing, etc. This also include services and amenities provided at the venue to aid in their arrival, such as trams or shuttles from a parking lot to the venue entrance, first-stop shopping, and restrooms.

Experience Phase: This period represents everything associated with the visitors’ on site, “in-experience” activities – such as recreating, following tours, dining, using restrooms, etc.

Departure Phase: The Departure Phase represents all elements along the visitors’ transit from the exit of the venue to their end destination – their home or hotel, in most cases. Similar to the Arrival Phase, this often includes pedestrian transit to their car, wayfinding, roadway utilization, and services and amenities to support the visitor from the venue entrance back to their cars, or shuttles from the venue entrance, last-chance shopping, and restrooms.

Savor Phase: This final phase represents the period in which the visitors reflect on their experience, perhaps responds to a survey request from the venue, posts on social media, and, ideally, considers their next return trip. It is at this point that the cycle repeats itself.

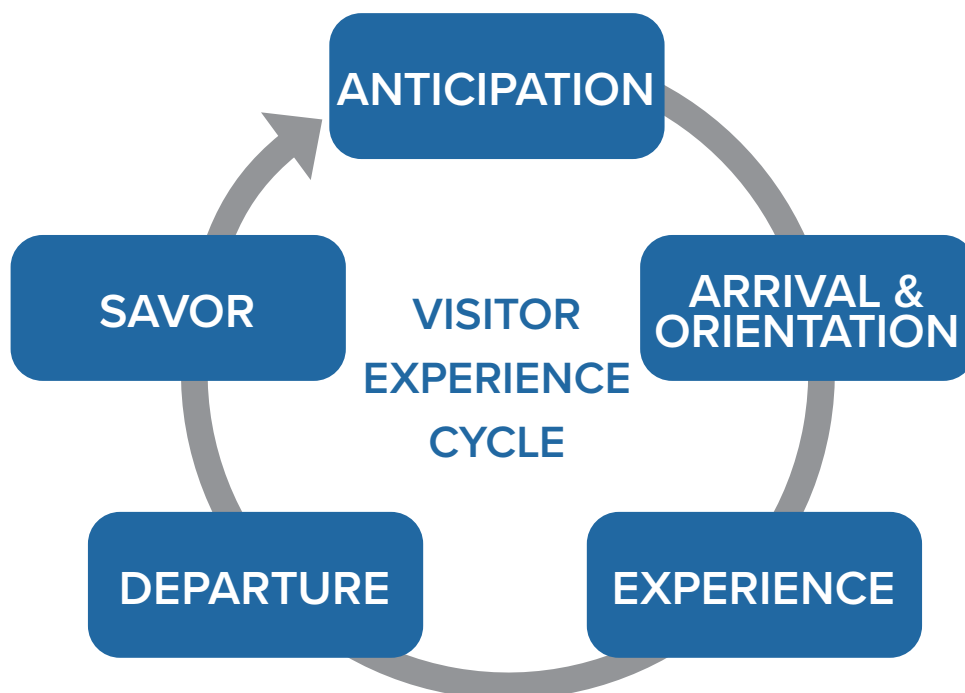


Figure 42: Stages of the Visitor Experience Cycle

The VEC on its own serves as an important reminder that how visitors define, connect with, and evaluate their experiences is much more than just the sum of the on-site elements. It includes everything they engage with from the moment they consider their visit to their post-visit reflection and reconnection. Understanding this concept means that businesses must always be mindful of the quality of the visitors' journey through all five phases, striving for consistency in execution along the way. This applies to day-to-day operations, and in how plans are defined and prioritized, such as the case with the SR 89 corridor.

Applying the Visitor Experience Model to the CMP

With the multi-phase framework of the CMP in place, the VEC can serve as a valuable model for gauging the impact of the Plan across the full spectrum of the visitor journey, for the purposes of ensuring overall balance and in identifying gaps. To begin with, initial assumptions were made regarding the correlation of each of the scope items within the three implementation phases to the five phases of the VEC. The results for each of the phases are shown in Tables 3 through 5. Note that in Phases II and III, several initiatives were not scored as they were not intended to support the day-to-day visitor experience, such as formalizing emergency turnouts.

Phase I					
	Anticipation	Arrival	Experience	Departure	Savor
Reservation, parking management, and fee system	X	X	X	X	
Real-time transit and parking app	X	X	X	X	
Phase I transit service and roadside parking relocations with temporary parking improvements		X		X	
Phase I point source congestion management strategies for Pope Beach Road and Jameson Beach Road intersections/recreation areas		X		X	
Transit stops at Eagle Point Campground, Inspiration Point, Eagle Falls Viewpoint, Vikingsholm		X		X	
Transit turnaround improvements near Emerald Bay's north gate		X	X	X	
SnoPark parking and transit stop improvements		X	X	X	
Jameson Beach Road shared use path		X	X	X	
Baldwin Beach Road shared use path		X	X	X	
ITS and shuttle marketing	X				X
Evaluate park-n-ride/bike locations at the Y and West Way		X	X	X	
Improve Fallen Leaf Road for emergency and recreation access			X		
Helipad site designation west of Bayview campground			X		
Recreation corridor gateway signage and consistent wayfinding		X	X		
Improved technology infrastructure		X	X	X	
Incorporate wildlife crossings with Caltrans bridge replacement near Meeks Bay		X	X	X	
Improved wayfinding and marketing and communication strategies	X	X	X	X	
Incorporate wildlife crossings where possible		X	X	X	
	4	15	14	14	1

Table 3: Phase I Project Correlations with the Visitor Experience Cycle

Phase II					
	Anticipation	Arrival	Experience	Departure	Savor
Tahoe Trail segments implemented: Spring Creek Road to Eagle			X		
Point Campground and Boat-in-Campground Road to Meeks Bay		X		X	
Water taxi partnership for service from the north shore		X	X	X	
Phase II transit service and roadside parking relocations with temporary parking improvements		X	X	X	
Phase II transit stops throughout corridor		X	X	X	
Phase II reservation and parking management and fee system	X	X	X	X	
Park-n-ride/bike improvements at Sugar Pine Point State Park and development of park-n-ride/bike facilities near the Y or West Way		X	X	X	
Phase II point source congestion management strategies for Pope Beach Road and Jameson Beach Road intersections/recreation areas		X	X	X	
Bayview campground conversion to small parking for off-season and winter access with summer transit stop		X		X	
Improve piers and increase operations budget to accommodate water taxi service		X	X	X	
Northbound viewpoint parking near Eagle Falls		X			
Implement LTBMU planned parking and circulation projects in Pope to Baldwin Segment		X	X	X	
Increase capacity for cyclist access to Camp Richardson		X	X	X	
Operational measures to allow for off-season and winter access to corridor parking lots		X			
Formalize emergency turnouts					
Gardner Mountain trail access			X		
Improved technology infrastructure		X	X	X	
Incorporate wildlife crossings where possible		X	X	X	
Formalize emergency turnouts					
	1	15	13	13	0

Table 4: Phase II Project Correlations with the Visitor Experience Cycle

From here, a baseline analysis was performed by tabulating the number of scope items planned for each phase of the VEC: the higher the number of initiatives, the greater the potential to raise visitor satisfaction levels for each impacted cycle phase. Using the assumptions previously described, comparisons for each of the three project phases were captured in Figures 44 through 46.

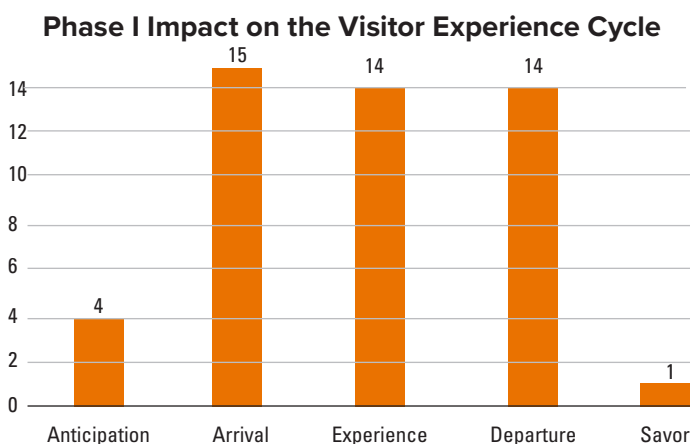


Figure 43: Phase I Projects Impacting VEC Stages

Phase III					
	Anticipation	Arrival	Experience	Departure	Savor
Tahoe Trail completed around Emerald Bay			X		
Water taxi partnership for increased service from the south shore		X	X	X	
Phase III transit service and roadside parking relocations with temporary parking improvements		X	X	X	
Phase III reservation and parking management and fee system	X	X	X	X	
Park-n-ride/bike improvements at facility near the Y or West Way			X		
Phase III point source congestion management strategies for Pope Beach Road and Jameson Beach Road intersections/recreation areas		X	X	X	
Evaluate need for off-season parking area north of Vikingsholm on LTBMU property		X	X		
Formalize emergency turnouts					
Improved technology infrastructure		X	X	X	
Incorporate wildlife crossings where possible		X	X	X	
Consider bike lanes or widened shoulders throughout corridor		X	X	X	
Monitor roadside parking impacts and consider relocating/restricting roadside parking near Meeks Bay Resort and Sugar Pine Point State Park		X	X	X	
	1	9	11	8	0

Table 5: Phase III Project Correlations with the Visitor Experience Cycle

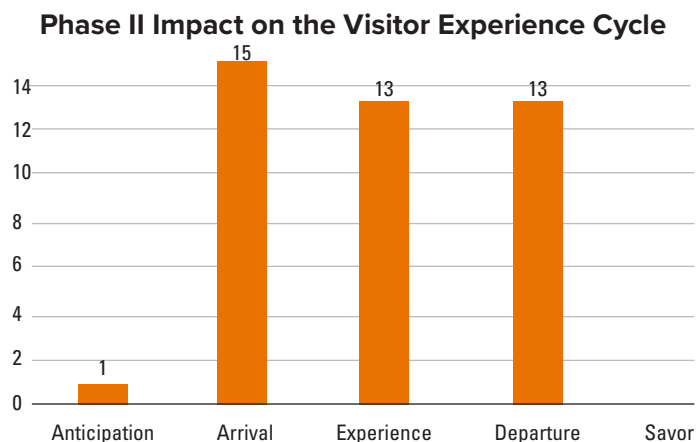


Figure 44: Phase II Projects Impacting VEC Stages



Figure 45: Phase III Projects Impacting VEC Stages

Based on the figures, Phases I and II of the CMP will have the greatest impact on the Arrival Phase, with Phase III focusing most heavily on the Experience Phase. This is a sound approach, as the visitors' arrival experience and first impressions – be it at an attraction, a hotel, or an event – significantly influence overall satisfaction levels and return intent. This phenomena is why leisure operators put so much stock on arrival experience ratings in satisfaction surveys. And in terms of the phasing of the overall project, applying early enhancements which will be of greatest benefit the Arrival Phase will help get a jump on improving overall satisfaction levels, until the additional scope is installed.

Based on this analysis, only minor impact will be felt within the Anticipation and Savor Phases of the VEC. This is not surprising, as the core concerns leading to the development of the CMP revolve around the corridor's roadways, mass transportation and parking provisions – elements represented in any destination's VEC within primarily Arrival and Departure Phases. The region's business and visitor authorities have a role for increasing the impact for the Anticipation and Savor Phases. Marketing efforts should reinforce and incentivize visitor behavior that aligns with corridor transportation and recreation access approaches.

However, the charts above are a reminder that a balanced approach to improving the overall experience is still important. During the June 2018 workshop, stakeholders raised concerns and ideas regarding all five phases of the VEC in the context of the SR 89 corridor experience. It is assuring to see two specific measures which will in combination encourage off-season visitation – the new fee system (assuming fees vary based on demand) and making parking available along the corridor during the off-season and winter. These measures have the potential to positively affect the Arrival, Experience, and Departure Phases by lowering peak attendance levels, reducing congestion, and making parking, camping, and other recreation activities more accessible and comfortable. To optimally address the entirety of the VEC, it is assumed that additional initiatives are underway, separate from the Plan itself.

Refining the Analysis – Weighting

To further refine the analysis, a separate exercise should be conducted in which each scope item should be scrutinized for its impact on each phase of the VEC, such as by attributing a point value. In a simple scale from 1 to 5, in which 1 represents minimal impact and 5 represents significant impact, the resulting point tallies will give a truer picture of the Plan's impact on each phase. As before, the results of this exercise can be used to validate project priorities and ensure proper balance between the various VEC phases.

It is recommended that this exercise be conducted using input from multiple representatives on the project, and averaging the weighting values provided by all of the participants.

Alternative Assessment Method – Breadth of Impact

An alternative approach to assessing the impact of each of the Plan's scope items is to rank them in terms of the number of phases of the VEC that are impacted by the work. The higher the number of phases of the VEC benefiting from the work, the more likely the visitors' overall satisfaction level will increase, as they will sense a higher quality experience across multiple points of their journey.

Taking Phase I of the Plan as an example, the implementation of a reservation, parking, and fee system will benefit the visitor as they consider the timing of their visit in advance, and streamline their experience on site. Therefore, four of the five VEC phases are impacted by this initiative: Anticipation, Arrival, Experience, and Departure. This can be contrasted with another initiative within Phase I, the installation of recreation corridor gateway signs and wayfinding, which will positively impact the Arrival and Experience phases, but is not relevant to three other VEC phases.

As with the baseline analysis, this approach can be refined by using a similar weighting system as referenced earlier. The net results will give a truer picture of how breadth of impact can be balanced with the level of impact on a per-phase basis.

IMPACT OF EACH PLAN PHASE ON THE VISITOR EXPERIENCE NARRATIVE

Phase I

Visitors will first take note of a more appealing experience during the **Anticipation Phase** when they discover a new transit and parking app and respond to ITS and shuttle marketing strategies. Reflecting back on the difficulties, safety concerns, and time lost searching for parking during from their previous visit(s), visitors will appreciate that these new tools will give them greater confidence and peace of mind that the hardships of making their way to their corridor destination will be rectified. As the implementation of the reserved parking system occurs, plans for Phase I will also include marketing and communication strategies to build awareness of the new system. This will mitigate issues in which visitors return during Phase II without a reservation made in advance.

For those diving into the features of the transit and parking app prior to their visit, they will appreciate the new transit stops installed at Eagle Point Campground, Inspiration Point, Eagle Falls Viewpoint, and Vikingsholm, and that improvements have been made to the transit stop at SnoPark and at the Emerald Bay north gate turnaround. Realizing that the new transit system will offer a hassle-free means of seeing these many favorite destinations, many will plan on using the service and will take advantage of the opportunity to extend their overall visit, as they understand that this will eliminate the difficulties of traveling and attempting to re-park at each of these respective stops.

Within the **Arrival Phase**, visitors will take note of the new recreation corridor gateway signs and wayfinding, which will provide a formal welcome statement for the corridor and build visitor excitement. Note that gateway signs may become popular photo spots (which should be encouraged in our word-of-mouth/Instagram consumer environment), so parking turnoffs at each gateway sign should be provided to allow for safe photo moments.

Those arriving from the south during peak periods will appreciate that their initial sightseeing along the corridor and overall safety has been enhanced through the implementation of point source congestion management strategies for Pope Beach Road and Jameson Beach Road intersections and recreation areas.

The improved technology infrastructure will facilitate the arriving visitors' use of the transit and parking app and a coordinated system of wayfinding and travel information will reduce confusion and improve decision-making, as they make their way to their respective stopping points.

Those arriving by car will take note of the parking improvements being made at SnoPark. Though some may be disappointed by the relocation of roadside parking away from high-demand, high-traffic areas such as Emerald Bay, in the long run they will appreciate that their and their family's safety is safeguarded by not having to park along the shoulder.

As the visitors begin the **Experience Phase**, those coming to the corridor for a scenic drive will appreciate improved traffic flow throughout, thanks to the above-mentioned parking and transit system improvements. Though not directly noticeable to most drivers, the new wildlife crossing incorporated with the Caltrans bridge replacement will provide a safer environment for both drivers and animals, and reduce hazardous incidences such as sudden stops for these crossings.

For those spending their day at Jameson Beach and Pope Beach areas, shared use paths will encourage visitors to

experience these areas both by foot and by bike, with ample width for both types of users, enabling them to focus less on those within the lanes and more on the incredible vistas enjoyed lakeside. Increased operational funds that stay within the corridor helps land managers address litter management, enhancing the visitor experience.

As visitors enter the **Departure Phase**, the same elements added to support the Arrival Phase come into play for maximum visitor satisfaction: enhanced parking opportunities, convenient transit pick-up points, and traffic levels managed for improved vehicle circulation on their exit.

Phase II

Visitors planning their trip during the **Anticipation Phase** following Phase II's implementation will be amazed by the new and exciting methods for traveling through the corridor, and the additional transit and experience options made available to them within this phase of the project. With continued implementation of the reservation and parking management system, visitors for the first time will have the assurance of a parking spot upon their arrival. It is assumed that the system will use a dynamic pricing model as a demand management tool. Those with flexible travel plans and/or those making value-based decisions will appreciate opportunities for lower parking fees and lower crowd levels during periods of lower attendance. With respect to delivering equity to the community, providing lower-price, off-peak options on a per-day basis (non-peak hours of the day) is encouraged. This will also be useful to those with fixed travel plans and specific user types, such as beach-goers, who are limited to summer visitation.

Within the **Arrival Phase**, in partnership with a third party operator, the use of water taxis will expose visitors to this additional mode of travel around the corridor, for transit from north shore to Emerald Bay. To support the implementation of the water taxi service, pier improvements will be made at Emerald Bay and at Sugar Pine Point State Park.

To optimize parking capacity throughout the corridor, Phase II includes parking additions to Bayview Campground and Eagle Falls. Phase II will also open opportunities for parking along the corridor during the off-season and winter, which will help shift even more demand away from the peak summer season (in conjunction with the new fee system).

And to further reduce traffic levels along the corridor beyond Phase I, park-n-ride/bike improvements will be implemented at Sugar Pine Point State Park, and also near the Y or West Way.

The above efforts will lend to an even more dramatic reduction in traffic along the corridor than in Phase I, which

will streamline visitors' arrival to their desired destination. Additional point source congestion management strategies for the Pope Beach and Jameson Beach intersections and areas will further improve visitor arrivals.

Several new enhancements improve the **Experience Phase**, including new segments to the Tahoe Trail and new Gardner Mountain trail access; additional cyclist access to Camp Richardson; additional transit stops to improve convenience and encourage multi-point visitation; and the new sightseeing opportunities afforded by the water taxi. Note that the water taxi onboard experience can further be enhanced through the use of live or recorded interpretation, as the taxis pass noteworthy locations along the route.

Due to the volume of enhancements made during Phase II, this is an important time to analyze visitor response to these installations and modifications. Usage studies, on-site and post-visit surveys, and social media feedback analysis are ideal methods for gauging the impact of each individual initiative. It is assumed that some funding within the increased operation budgets can be allocated toward this important research, as the results will help refine remaining efforts during Phase II.

Phase III

Prior to Phase III's implementation, it is assumed that the combined impact of favorable word-of-mouth and social media, along with effective marketing efforts, will deliver the expected results from the implementation of the first two project phases: reduced traffic levels through the corridor, shifting of demand from peak to non-peak hours, days, and seasons; increased visitation levels at previously underutilized public areas along the corridor; improved visitor and driver safety levels; and higher overall satisfaction levels as measured by the respective operators within the area.

Visitor travel along SR 89 will become more leisurely, less congested, and less stressful, due to the elimination of roadside parking, as the designated parking areas will eliminate the uncertainty of finding a parking space and traffic conditions will be improved by the elimination of maneuvering for roadside parking access and a reduction in the volume of vehicle turning movements. The enjoyment of the driving experience for motorists will improve as they will be able to spend more time enjoying the spectacular scenery and less time searching for a roadside parking space and avoiding others looking for a space.

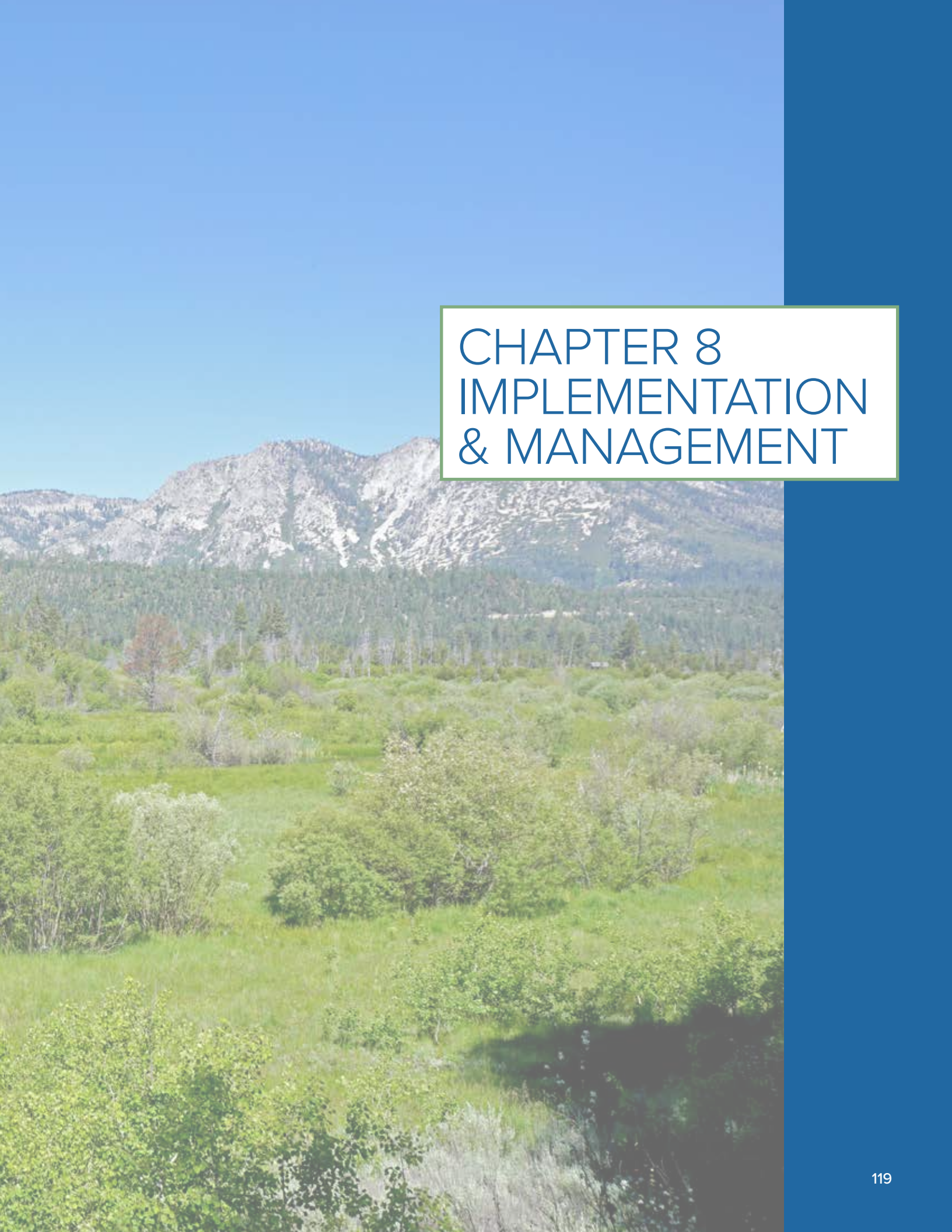
This is the period in which visitors' satisfaction in the **Savor Phase** feeds their interest in returning, and the visitors move into the **Anticipation Phase** with less of a time delay than previously, and for some, if they had previously considered returning at all.

To support visitors during the **Anticipation Phase** with these enhancements in place, some additional measures will be required. The recommended parking management strategy will restrict the amount of available parking in the SR 89 corridor, thus impacting the ability of visitors to stop at many of the key corridor destinations on busy days. As a resource to visitors during their trip planning process, all websites related to the SR 89 corridor should include alerts regarding the parking restrictions and include links to specially-developed websites that enable visitors to make reservations for parking, shuttles, and/or water taxi at all available parking locations. Reservation resources should be developed to be as seamless as possible and coordinated throughout the Tahoe basin – e.g., reservations for parking, shuttle, and attraction destination should be combined into a single online transaction.

As Phase III is implemented, visitors during the **Anticipation Phase** will be further drawn toward the use of water taxis for both transportation and for sightseeing, as marketed and facilitated through the reservation system, and the additional appeal of expanded service to the south shore.

To enhance the **Arrival Phase**, final improvements will be made to the expanded water taxi system, the transit system (even higher capacity, number of stops and frequency), park-n-ride/bike facilities near the Y or West Way, and possible additional parking during the off-season at Viking-sholm.

For visitor enhancements during the **Experience Phase**, the Tahoe Trail will be completed, bike lanes or wider shoulders will be considered along the corridor, and new sightseeing opportunities will be revealed as a result of the new south shore extension of the water taxi.



CHAPTER 8 IMPLEMENTATION & MANAGEMENT

ADAPTIVE MANAGEMENT

Recreation and transportation corridors require a framework of adaptive management to address issues. There are no silver bullets or single strategies that can achieve the desired outcomes shown in Table 6. Often many of the strategies are interconnected. Implementing multiple approaches increases the likelihood of success.

For example, transit ridership may be higher for those programs that are designed as part of a recreation experience and have supporting marketing campaigns and other incentives to encourage use. Infrastructure enhancements make transit operations more functional, improving reliability and making transit a more attractive alternative for potential riders.

The Interagency Visitor Use Management Council has prepared a framework and guidebooks to assist land managers as they work to meet agency and site goals. The resources support the use of adaptive management for recreation areas. David Cole's 2019 contributing paper is

included in the set of resources. It summarizes the relationship between levels of visitor use and environmental impacts. It states that literature research shows visitor management techniques are more effective than strictly limiting use in order to limit impact on resources. The connection between use levels and the impacts to both the size and/or intensity of disturbance may not be a one to one relationship. The use of adaptive management as part of a visitor management approach gives agencies the ability to evaluate and modify strategies in response to actual findings for specific sites and resources.

As the strategies and projects presented in the CMP are formalized and implemented, land managers and enforcement agencies must regularly evaluate their effectiveness to meet management objectives. Evaluating and adjusting approaches should occur on a regular basis as user behaviors shift, new opportunities are made available, and other issues arise.

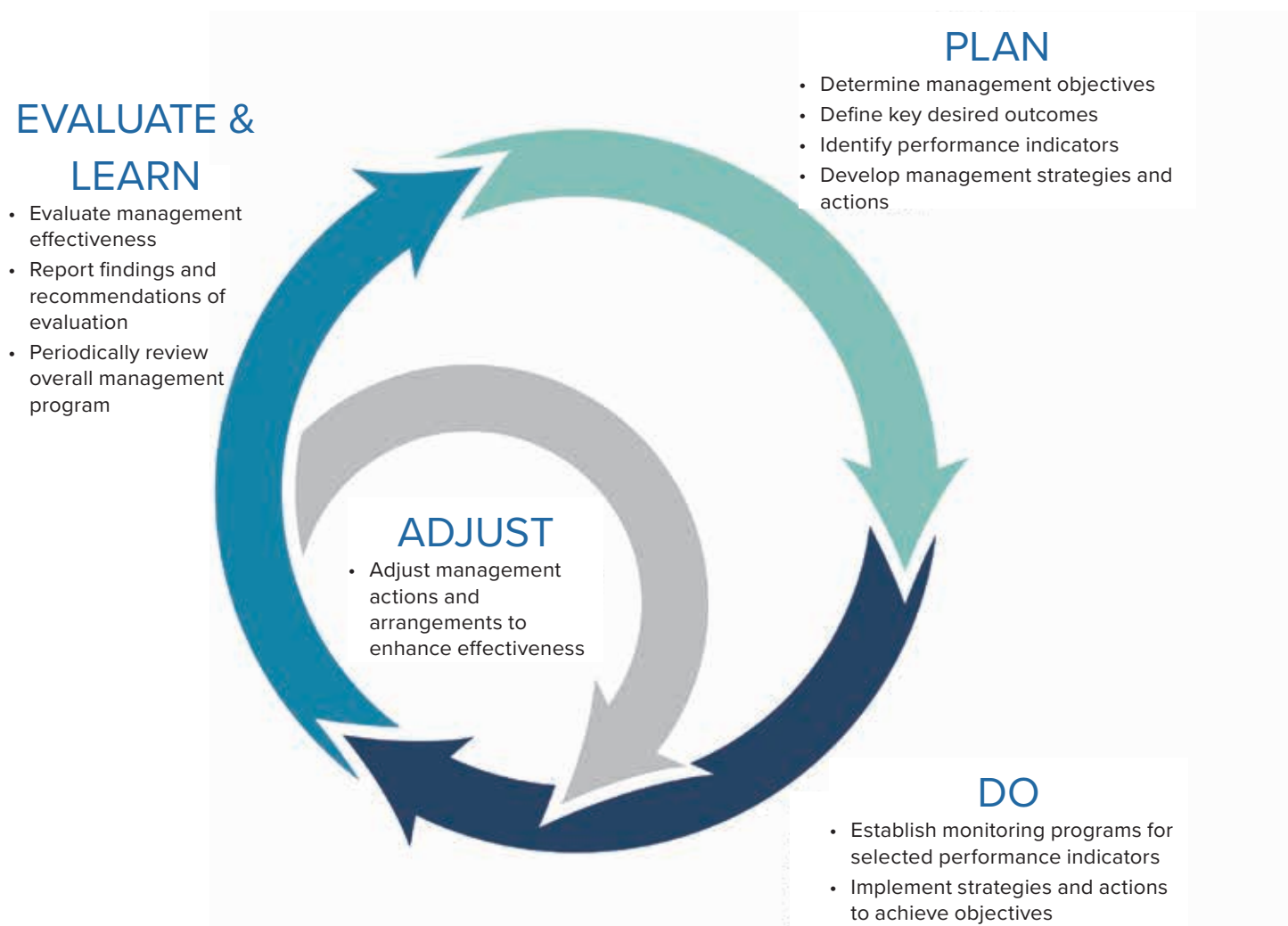


Figure 46: Adaptive Management Cycle

DESIRED OUTCOMES AND PERFORMANCE INDICATORS	
Desired Outcomes	Performance Indicators
A premier shared-use path provides an alternative for recreation access and a high-quality recreation experience in and of itself	<ul style="list-style-type: none"> • Completion of the Tahoe Trail
More than 50 percent of visitors use transit or active transportation to reach destinations	<ul style="list-style-type: none"> • Increased transit ridership and bicycle counts in proportion to overall corridor visitation • Reduced vehicle miles traveled and improved air quality
Reduced impacts of peak visitor use	<ul style="list-style-type: none"> • Managed congestion at high demand visitor locations • Organized parking areas and experience • Increased percentage of visitors reporting that they planned ahead
Coordination/co-location of projects and leveraging of funding	<ul style="list-style-type: none"> • Number of projects achieving goals of multiple agencies and reduced instances of missed opportunities
Sustainable corridor funding for operations and maintenance	<ul style="list-style-type: none"> • Continued operation of transit and parking management system • Reduction of deferred maintenance costs
Adaptive and responsive corridor management	<ul style="list-style-type: none"> • Establishment of a Corridor Management Team • Data collection and evaluation of corridor health and corridor capacity • Reduced wayside trail and user impacts on natural and cultural resources

Table 6: Desired outcomes and Performance Indicators

IMPLEMENTATION AND FUNDING

Partnering agencies must continue to work together to create attractive grant funding applications, leverage resources, and create an operating plan that works corridorwide. Managing change for SR 89 requires partnering agencies to continue engaging the community and working together to implement projects, to resolve issues as they arise, and to further develop funding sources. The CMP promotes long term agency collaboration through a SR 89 Recreation Corridor Management Team made up of partnering agency representatives and an Executive Level Team.

The primary agencies managing existing facilities along the Corridor – LTBMU, State Parks, Caltrans, and El Dorado County – have budgetary challenges for existing operations and maintenance. This condition is unlikely to change in the near future. Therefore projects implemented as part of the CMP should explore alternative funding sources. Agencies recognize it will not only take a collaborative effort to accomplish many of the projects, but that future infrastructure and maintenance and operation costs also need to be covered. The CMP recognizes that implementing funding strategies will at a minimum require approval of the operating agencies and may include legal agreements and legislative changes.

Executive Level Team

Implementation of CMP takes persistence and rigor. Many of the challenges must be addressed at executive levels. In 2018, the Bi-State Working Group on Transportation illustrated how a cross-section of the region's partners can come together to tackle long-standing barriers. As part of the CMP's planning process, the Steering Committee's Executive Team also came together to give critical direction and advance decision-making. These continued collaborations are essential for the CMP to be implemented.



Kiva Beach in the winter.

Therefore, it is recommended that the Bi-State Working Group on Transportation continue convening, an Agreement be established, and Executive Level meetings continue with participation by lead agencies. The focus of the Executive Team is to work through procedural, legislative, enforcement, capacity, funding, environmental review, and other high priority issues. The Executive Team would develop potential resolutions for items and elevate discussions that need to be addressed by the Bi-State Working Group.

Future Executive Team Considerations

The following items represent anticipated topics for the Executive Team. The list is not intended to be all-inclusive, but provides a starting point for future discussions. Additional items initially discussed at the staff/Corridor Management Team level may also be elevated for resolution by the Executive Team.

Procedural Hurdles

- Decision-making framework
- Legislative and code changes
- Increasing fine for illegal roadside parking
- Recreation zone speed limit reductions or traffic calming around high use areas, turnouts, and viewpoints
- Corridor Management Team Agreement
- Shared funding for corridor parking management and transit operations
- Mechanism for LTBMU and CDPR revenue retention for Tahoe
- LTBMU parking lot closures and openings
- Cross jurisdictional resolution

Capacity

- Review and direction on corridor and regional visitation capacity

Highway Design and Operations

- Technology infrastructure in the right-of-way
- Year-round access and avalanche control in Emerald Bay

Corridor Management Team

The SR 89 Recreation Corridor crosses through state and federal lands and has multiple organizations operating within it, which makes management challenging. No single agency can address the many issues that are a by-product of roadside parking. As experienced with the SR 28 corridor, a corridor champion and a management structure is needed to bring parties together to resolve shared issues. The CMP recommends a staff level Corridor Management Team work together to continue the partnership established during the plan development.

An agreement or other legal document, modeled from the SR 28 CMP Inter-local Agreement, should be developed amongst the agencies to establish the team's structure. The Corridor Management Team should:

- Meet at least four times per year to review progress in implementing the CMP
- Provide a coordinated approach in seeking grants
- Identify emerging issues that need to be addressed in the corridor
- Develop a revenue stream for maintenance and operation of the corridor
- Continue stakeholder and public engagement

At times the Corridor Management Team should set up Technical Advisory Committees to address various issues. It is not the intent to have this Corridor Management Team direct individual agency goals or their budgets but to establish a partnership that collaboratively works toward addressing their shared issues. In the future, partnering agencies may find efficiencies that could be gained by sharing resources.

Partnering agencies should annually confirm priority projects and which grants will be sought for those projects. This collaborative process and support by partnering agencies is often part of the ranking criteria of grants and creates a higher potential for grant success. Noting the corridor's large partnership that crosses several jurisdictional boundaries and having a management structure in place helps improve grant success.

Future Corridor Management Team Considerations

As the Corridor Management Team works together to implement the CMP, they will also address new issues that emerge. A few items are listed here for future consideration. The list is not intended to be all-inclusive, but provides a starting point for future discussions.



View from Fannette Island's "Tea House" at Emerald Bay.

Procedural Hurdles

- Meeting format, schedule, roles, and responsibilities
- Operations and maintenance agreements
- Concessionaire responsibilities

Capacity

- Individual site capacity studies and State Park Management Plans
- Regional capacity study
- Implications of water transit service at Emerald Bay
- Implementation of management strategies
- Shifting peak period use to off-peak times
- Adjusting transit service, such as frequency or the number of buses
- Trash/litter management

Project Priorities and Funding

- Bundled projects to be submitted for grant funding
- Assessment and update of project priorities
- Bundling projects for grant and construction/constructibility opportunities with annual corridor budgeting for shared resources
- Strive to provide the visitor consistency across jurisdictional lines when visiting the corridor, with signage, regulations, and parking information
- Public outreach and messaging
- Resolving corridor challenges/hot spots as they arise

Parking Management

- Closure times for LTBMU lots
- LTBMU lots (or portions of a lot) that should stay open year-round
- Implementation and fine-tuning of management systems (reservations, parking, and transit)
- Integrated technology into parking management
- Visual impacts of advertising on buses or meters
- Winter and off-season parking access areas
- Enforcement of no parking zones



Bears at Taylor Creek.

Highway Design and Operations

- Year-round access and avalanche control in Emerald Bay
- Emergency access sites along the corridor
- Roadway design improvements for enhanced transit and emergency access
- Truck traffic limitations
- Tour bus limitations and permits
- Approvals for designating no roadside parking zones

Snow Removal

- Snow removal of Tahoe Trail
- Which parking areas might have snow removal

The following can enable the partnership to be effective:

- Decision-making rules should be established, i.e., deciding whether consensus is required to move forward on a given action. It should be recognized that land managers have final authority for decisions on their lands while having a goal for consistency in the overall approach for the corridor. Projects and implementation actions should be made in consideration to how they help the overall corridor achieve its goals.

- Staff from a lead agency should be identified to set agendas, send meeting invites, secure meeting venues, and record meeting minutes and outcomes. The lead agency can rotate every year to two years.
- A partnership chair should be determined to help set agendas and run meetings.
- Establish a regular meeting schedule (at least quarterly) and for enough time to have a rich and productive discussion where outcomes and roles and responsibilities are reviewed.
- Accountability is essential. Each meeting should result in specific actions assigned to individuals or agencies and a timeline for their completion.
- Conflict resolution should occur quickly. Engage decision-makers early to get buy-in and clear direction.



The beach at Meeks Bay.

Operations and Maintenance Responsibilities

The CMP suggests establishing a management structure as a critical component to future success. The proposed operations and maintenance responsibilities are derived from discussions with partnering agencies and identifying “who does what best”. These are not a commitment to do the activities, but these agencies should be involved in future maintenance and operations discussions in the areas listed.

Management may be focused around lands each agency operates, but collaboration for increased mutual benefit should be established whenever possible and where funding allows. Currently the impacts of the corridor are not being managed. Therefore, as the CMP moves forward, it is recognized that these roles will require operational increases for land management agencies.

TRPA’s primary role is permitting and monitoring the management/maintenance activities and are therefore not specifically listed in the table. In particular, they are the regulatory agency for best management practices by all other agencies. Items of review may include sweeping, signage, and snow removal.

Note: This list is not a commitment to operations, but a starting point for future discussions as projects are implemented.

POTENTIAL OPERATIONS & MAINTENANCE RESPONSIBILITIES									
Task	Caltrans		State Parks	LTBMU	El Dorado County	TTD	CHP	EDC Sheriff	Vendor
	North	South							
Enforcement									
Temporary roadside parking barrier maintenance	X	X							
Permanent roadside parking barrier maintenance	X	X							
Ticketing			X	X			X	X	X
Towing							X	X	X
Regulatory Sign Replacement	X	X							
Parking Lots									
Parking Meter Maintenance	To be discussed by the Corridor Management Team as CMP implementation moves forward.								
Meter Collection/Administration									
Sweeping	X	X	Staff only		X				
Garbage Pickup			X	X					X
Litter Patrol	X	X	X	X	X				
Regulatory Sign Replacement	X	X	X (in park)	X					
Visitor Signage	X	X	X	X	X				
Transit Stops, Vistas, & Emergency Turnouts									
Sweeping	X	X	Staff only	Vistas	X				
Garbage Pickup			X	Vistas					X
Litter Patrol	X	X	X	Vistas	X				
Restroom Cleaning			X	Vistas					X
Graffiti Removal	X	X	X	Vistas	X				
Regulatory Sign Replacement	X	X	X (in park)						

POTENTIAL OPERATIONS & MAINTENANCE RESPONSIBILITIES									
Task	Caltrans		State Parks	LTBMU	El Dorado County	TTD	CHP	EDC Sheriff	Vendor
	North	South							
Visitor/Wayfinding/Interpretive Signage	X	X	X	X	X				
Snow Removal	X	X			X				
Scenic Byway Brochures	Funding Only	Funding Only			X	X			
Tahoe Trail									
Sweeping			Staff only		X				
Litter Patrol			X		X				
Regulatory Sign Replacement	X	X	X (in park)		X				
Vista Point Interpretive Signs			X	X	X				
Public Information	X	X	X	X	X	X			
Capital Infrastructure Maintenance									
Bus Replacement						X			
Parking Lot Striping	X	X		X	X				
Parking Lot Resealing	X	X		X	X				
Parking Lot Overlay	X	X		X	X				
Parking Lot Concrete – Curbs	X	X		X	X				
Parking Lot Stormwater Treatment Systems	X	X		X	X				
Bike Lane Striping/Resealing	X	X							
Bikeway Striping/Resealing				X	X				
Bikeway Overlay	X	X		X	X				
Bikeway Co-location Projects					X + Utilities				
Viewpoint/Highway Transit Stop/ Emergency Turnout Striping/ Resealing	X	X							
Viewpoint/Highway Transit Stop/ Emergency Turnout Overlay	X	X							
Bridge Inspections	X	X			X				
Interpretive Sign Replacement			X	X	X				
Bench Replacement			X	X	X				
Bear Proof Can Replacement			X	X	X				
Scenic Byway Entry Signage	X	X				X			

Table 7: Potential Operations and Maintenance Responsibilities

Funding

The CMP describes how strategies and recommendations can move forward through a set of projects defined by corridor segment. It clarifies how one project may be coordinated with another (see Appendix B's "Consider Coordination with Other Projects" column) and how agencies might collaborate on multiple projects.

Funding Needs

Examples of major corridor projects include:

- Tahoe Trail
- Congestion management projects in the Pope to Baldwin Segment
- Transit pullouts
- Park-n-rides
- Off-highway parking
- Emergency pullouts
- EIP projects
- Trail connections

All of these projects need both capital construction funding and long term operations and maintenance funding. Funding can be leveraged by correlating multiple projects. Additional projects, such as the South Shore transit maintenance facility is a critical project, which although not directly located in the corridor, has significant impact on the ability to implement corridor recommendations. Funding for the facility and other projects with similar influence are crucial for public transit to succeed.

Potential Funding Sources

Parking Management

Opportunities for parking management; including a coordinated, basinwide paid parking system with season passes that consider discounts for locals and disadvantaged communities; should be a high priority for the Corridor Management Team. This includes options for potential revenue generation through paid parking and reservations. Parking management provides an effective tool for managing the corridor. Its ability to connect with technology and provide real-time information may be beneficial above and beyond potential revenue generation.

It is recommended that a more detailed parking management strategy be developed in coordination with the proposed travel framework. Because it is more difficult to add fees years after new improvements are made, paid parking should be considered as new and expanded parking areas are developed. Additionally, the impacts of only charging for some parking areas and not all should be evaluated as people will typically park at unpaid beaches first.

Because there are several variables to consider, further analysis is needed to explore the topic. The exploration of revenue options should consider how implementation of these options on the SR 89 corridor could impact other areas around Lake Tahoe. Agencies should consider that fee structures can encourage or reward those who take alternative transportation to recreation sites, thereby reducing the vehicle miles traveled (VMT) and improving the environment. Equitable access should also be a critical component of the proposed program. Free or low cost transit access is another way to offer equitable access when parking at the site or areas closest to the recreation site may be priced higher than transit.

Conversations regarding revenue streams are never easy but are necessary to the success of implementing the CMP and providing a safe quality visitor experience. The SR 89 corridor is a special part of the region, includes one of California's 36 National Natural Landmark sites, and is one of the most photographed areas of Lake Tahoe. It can offer economic benefits for the local communities and to the region. Both the indirect and direct values created by visitors enjoying this corridor must be considered.

ONE TAHOE

For more than forty years, the transportation needs in the Tahoe basin have been a response to annual visitation, what has been termed in Tahoe as recreation travel. Yet this form of travel is not recognized in either federal or state transportation policy and little funding is dedicated to addressing it. Most transportation policy is oriented around urban commute and freight travel, not recreation commute. Tahoe's resident population is too small to pay for the types of improvements needed to address the millions of visitors whom arrive by mostly personal vehicles. Compounding this problem is Tahoe's political jurisdictional situation where the bi-state compact carved out a bi-state area comprised of portions of five counties with one municipality.

TTD is one of two bi-state transportation agencies and has an implementation role with a Board of Directors comprised of the two state departments of transportation, all local governments, both state's governor's and TRPA's appointee, and private sector transportation interests. Like other

regions who have developed a “self-help” transportation funding source, TTD is addressing the same need through the ONE TAHOE revenue initiative in order to develop a regional revenue source that can leverage existing federal, state, local, and private sources. Establishing an adequate regional revenue source that proportionately addresses all users will enable the realization of the region’s transportation goals and solve a major funding problem. The SR 89 CMP recommendations requires regional partners to come forward with a funding solution and finance plan in order to achieve the outcomes outlined in this plan.

Pay for Success

The Pay for Success (PFS) model is a new way of financing public services to help agencies target limited dollars to achieve a positive, measurable outcome. Under the Pay for Success model, a government agency commits funds to pay for a specific outcome that is achieved within a given timeframe. The financial capital to cover the operating costs of achieving the outcome is provided by independent investors. In return for accepting the risks of funding the project, the investors may expect a return on their investment if the project is successful. Payment of the committed funds by the government agency is contingent on the validated achievement of results. In this way, the PFS model shifts the burden of investment risk from the government to private investors, effectively creating a social investment market where the government only pays for results.

LTCMU is working with a consultant to evaluate opportunities to apply the Pay for Success model in the Tahoe basin. Many of the recommended corridor projects, including the completion of the Tahoe Trail, are candidates for this type of financing model.

Lake Tahoe Restoration Act

The Lake Tahoe Restoration Act of 2016 authorized up to \$415 million over 7 years for the Environmental Improvement Program (EIP). The Act requires that the EIP maintain a priority list of projects for the program areas of Forest Health, Aquatic Invasive Species, Watershed Restoration, Lahontan Cutthroat Trout, and Accountability. The SR 89 Corridor Management Plan was identified as a priority for the Lake Tahoe Restoration Act. Recommendations outlined in the CMP will reduce erosion and stormwater runoff reaching Lake Tahoe by restricting on-highway parking, and will reduce traffic congestion ultimately improving air quality.

Fee Collection Modifications – Revenue from Recreation, Permits, Events, Etc.

User fees, or revenue from recreation facilities, often does not stay in the Basin and goes back to the general fund or to the agency. Further, agencies rarely operate cross jurisdictions to share resources in management of recreational facilities. To break the barriers and work collaboratively to address challenges of shared facilities like parking, path systems, and transit, agencies need to shift to a partnership approach. This arrangement should foster collaborative operations and maintenance budgeting, sharing of revenue and expenses, sharing resources, and monitoring of capacity and operating challenges.

Partners must explore opportunities to keep revenue within the corridor for infrastructure preservation and annual operating. This requires agencies jointly seeking/committing to equitable rate structures for all visitors, understanding how a specific facility’s fees impact the system and moves demand, and developing a corridorwide approach to fees for shared resources and facilities. It is recognized that using funds across jurisdictions will at a minimum require legal agreements and may require legislative changes.

Although it is not a simple process, it is attainable within a partnership program. For example, California State Parks has examples of entering joint agreements where a portion of a fee goes to State Parks and a portion goes to transit operations. As an example, Yuba County has a right of entry permit for their transit service to enter the state park and because the joint agreement recognizes the value the transit service brings the park, Yuba County receives a portion of the entry fee to operate the transit service.

The agreement should require the partnering agencies to study all current and proposed fee structures to determine the best corridorwide funding approach for providing an excellent visitor travel experience, maintaining capacity at individual facilities, protecting natural and cultural resources, and covering the operating and maintenance costs of a shared corridor transportation system (i.e., parking, path, transit, water taxi). This may include new fees and structural changes, such as congestion pricing or reservation pricing, within the corridor and must consider an equitable approach for all visitors. As part of a fee analysis, the system should evaluate Emerald’s Bay capacity for boat access and ability to establish a revenue system for boat access.

For reference, in Nevada the SR 28 Corridor Management Team developed a budget agreement between TTD, Nevada Division of State Parks (NDSP), and Washoe County (WC) that appropriates operations and maintenance resources to those best equipped to provide the services,

which in some instances may be a vendor. In this example, NDSP's ranger budget was increased to cover costs of increased patrol and maintenance and WC received funds to sweep NDSP facilities.

A Note on COVID-19

The SR 89 Recreation Corridor Management Plan was developed over the course of a two-year planning process that was initiated in 2018. In March of 2020, COVID-19 was declared a pandemic by the World Health Organization. Shortly after, many states across the nation enacted stay-at-home orders and only essential businesses were open to the public. During this time the priorities of agencies and organizations shifted to focus on addressing the immediate and critical needs associated with the pandemic.

In addition to severe social and health impacts, COVID-19 has also created dramatic impacts to local and state budgets. Regions such as Lake Tahoe where the economy is driven by tourism have incurred substantial economic hits and are projecting significant budget shortfalls. Because of these unprecedented times, the CMP recognizes that implementation of recommended projects and planning efforts may be delayed as jurisdictions, agencies, and organizations recover and as funding dollars may be prioritized on health and safety efforts prior to being earmarked for the corridor.

Although the pandemic may delay implementation, the long term vision, goals, and recommendations presented in the CMP hold true. Agencies and organizations should move forward with tracking and monitoring visitation patterns, evaluating opportunities to adjust and refine plan recommendations, work to position projects for implementation, and pursue long-term funding sources. The partnering agreement should be developed, work progressed on legislative and executive level issues, and more detailed design of transit operations and the corresponding parking and reservation management system should be created so that the desired outcomes for plan recommendations may be realized as soon as possible.



SR-89 Corridor Management Plan

Appendices
September 2020

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CORRIDOR CHALLENGES AND STRATEGIES

CORRIDOR CHALLENGES AND STRATEGIES

SR 89 Recreation Corridor Management Plan
Corridor Challenges and Strategies

Item ID	Corridor Issues	Strategies	Associated Strategies and Projects (Item ID and Project ID)	Success Measurement	Does the Recommendation Require Additional Action at a County or State Level?
1	The Tahoe Trail ends at Spring Creek Road in the south and at Meeks Bay Resort in the north, leaving an approximate 11-mile gap in bicycle access to recreation destinations and through cyclists along the west shore of Lake Tahoe.	<p>Complete a feasibility study for shared-use path alternatives along the west shore.</p> <p>Continue to work with residents, property owners, and land managers to develop the preferred alignment for the Tahoe Trail.</p> <p>Phase implementation of the remaining segments of the Tahoe Trail so that phases are constructed from destination to destination. For example, one phase of the construction could encompass the trail from the vista point east of Eagle Falls through the Vikingsholm parking and entrance area. This approach could leverage partnerships and improve connectivity. Other phases may be associated with the restoration project at Meeks Bay, the connection of Meeks Bay to D.L. Bliss, the connection of D.L. Bliss to Emerald Bay, and the connection to the existing trail at Spring Creek Road to Emerald Bay.</p>	Item 2, Item 15, Item 23, Item 26; CW-1.01, WS-2.01, WS-2.02, WS-2.03, WS-3-01, WS-4.01	Tahoe Trail completion with no gaps along the West Shore. Miles of trail constructed.	
2	High volumes of pedestrians walk along and in the roadway in heavily used areas such as the Pope to Baldwin and Emerald Bay Segments. 375 cars parked alongside the highway and the viaduct in Emerald Bay on an average busy summer day in 2018 forcing pedestrians to walk in the roadway.	<p>Implement strategies associated with Item 1 and incorporate a walkway or shared-use path around Emerald Bay in coordination with and connected to off-highway parking lots.</p> <p>Implement strategies associated with Item 5 and restrict/relocate roadside parking.</p>	Item 1, Item 3, Item 23, Item 26; CW-1.01, WS-2.01, WS-2.02, WS-2.03	<p>Miles of sidewalk or Tahoe Trail developed around Emerald Bay offering a pathway off the highway for pedestrian use.</p> <p>Number of roadside parking spaces "relocated" or shifted to another mode.</p> <p>Reduction in traffic incidents.</p> <p>Decrease in emergency response times.</p> <p>Measurable reduction in congestion levels.</p> <p>Improved lake clarity.</p> <p>Number of pedestrian and bikes using new trail system.</p> <p>Number of miles of No Parking Zone implemented as alternative modes of transportation have shifted to organized parking, transit, and trail systems.</p>	
3	Lack of consistent, frequent, and marketed transit within the corridor negatively impacts the number of people able to arrive to recreation destinations without a car.	<p>Develop an easily accessible, frequent, fun, and consistent transit system, that provides recreation access and can carry recreation equipment, to serve corridor recreation destinations during the summer months. Consider an express transit service to Emerald Bay from a park-n-ride area south of Emerald Bay. Consider expanding transit to other peak weekends during the winter and off-season.</p> <p>Reduce the demand for park-n-ride facilities. Coordinate transit services with mainline systems from accommodation areas. Partner with private shuttles, including those from area hotels and accommodations to service the corridor from lodging.</p> <p>Implement and enforce no roadside parking recommendations from Item 5.</p> <p>Develop and implement a unified branding and marketing strategy to promote no-car access options to recreation areas.</p> <p>Implement point source congestion management strategies throughout the Pope to Baldwin Segment to reduce delays and increase transit ridership.</p> <p>Establish a sustainable funding source that addresses varying land manager requirements while collecting revenue from parking and/or transit to subsidize transit operations and the operation of a parking management system. The administrator of the system should be an entity that can work with partner agencies to pool resources as well as pursue additional funding sources such as applying for State Transit Assistance (STA) funds and grant programs.</p> <p>Utilize a reservation system for shuttle use to distribute peak use and provide a system that can be used to reduce visitation, if needed, with the understanding that shifting recreation use and unmet demand will need to be addressed as part of a basinwide approach.</p> <p>Enhance the bus stops and pull-offs through Emerald Bay to improve transit operations and increase reliability.</p> <p>Develop turnaround locations (such as a roundabout) near the north gate at Emerald Bay and as part of parking/shuttle stop improvements at Bayview Campground for buses to turnaround.</p> <p>Incorporate visitor experience opportunities as part of the transit system to encourage use.</p> <p>Identify a location near the Y or West Way that can be developed as a park-n-ride/bike to serve corridor users entering the corridor from the south.</p> <p>Utilize the underutilized parking area at Sugar Pine Point State Park as a park-n-ride/bike location in the northern area of the corridor. Improvements should allow for the facility to also improve TART service and bus turnaround for the north shore.</p> <p>Develop public/private partnerships to deliver water taxi operations and promote use of water taxi options to reach recreation destinations and create a desired recreation experience in and of itself. Water taxis should accommodate some bicycles so passengers can ride when they reach their destination. Private operations present an opportunity to help meet corridor goals and provide visitor experience benefits, but they are not a substitute for public transit.</p> <p>Explore public/private solutions, including opportunities for micro-transit and tour companies to provide services that are compatible with the corridor vision and desired outcomes.</p>	Item 1, Item 4, Item 5, Item 26; CW-1.02, CW-1.03, CW-1.04, CW-1.05, CW-1.06, WS-1.01, WS-1.03, WS-1.08, WS-1.09, WS-1.10, WS-1.11, WS-1.14, WS-2.04, WS-2.06, WS-2.07, WS-2.08, WS-2.11, WS-2.12, WS-2.13, WS-2.14, WS-4.03, WS-5.01, WS-5.02	<p>Reduction in vehicle congestion along the highway.</p> <p>Mode share targets for each travel framework phase hits minimum of 80% of target.</p> <p>Visitor awareness of shuttle program.</p> <p>Results of travel surveys indicate a positive experience.</p> <p>15% of visitors utilize a park-one strategy and access transit from their accommodations.</p> <p>Increased operations budget for land managers.</p> <p>Transit and parking management system have sustainable funding source.</p>	<p>Yes - findings for restricting roadside parking are needed per the California vehicle code</p> <p>Increasing fine will need to be discussed at higher levels</p> <p>Addressing increasing visitation demand needs to occur at a regional level</p>

CORRIDOR CHALLENGES AND STRATEGIES

Item ID	Corridor Issues	Strategies	Associated Strategies and Projects (Item ID and Project ID)	Success Measurement	Does the Recommendation Require Additional Action at a County or State Level?
4	Bus stop and turnaround locations are limited in Emerald Bay and vehicles are often illegally parked in the bus stop.	Formalize bus stop pulloff locations in Emerald Bay so the design is integrated as part of the following areas: Northbound pulloff at Inspiration Point Northbound pulloff at Vikingsholm Parking lot Southbound pulloff part of redesigned roadside parking area at Eagle Falls Southbound pulloff part at Inspiration Point or as part of a redesign of Bayview Campground to a small off-highway parking lot and shuttle stop to meet winter and shoulder season recreation access needs when the summer shuttle is not in operation. Turnarounds at Emerald Bay's northern and southern gates and as part of the Bayview transit pulloff. Implement elements discussed in Item 3.	Item 3; WS-2.05, WS-2.11, WS-2.12, WS-2.13, WS-2.14	Transit reliability and ridership increased.	
5	Summer recreation users arriving to beach entries, trailheads, and off-highway vista points by car creates significant congestion as motorists use the highway as a defacto parking lot and search for a place to park along the side of the road. The traffic congestion, also caused by lack of real-time information, impacts emergency response operations and overall traffic flow.	Restrict/relocate roadside parking from the Pope to Baldwin Segment to D.L. Bliss and shift to off-highway parking lots or park-n-ride/bike locations or park-once strategies from lodging accommodations and/or other recreation sites. Implement an adaptive management strategy to monitor roadside parking impacts near Sugar Pine Point State Park and Meeks Bay and restrict/relocate parking when alternative access is provided. Significantly increase fine for parking along the roadside in restricted areas. Utilize barriers, striping, and No Parking Zones to provide consistency and clarification for visitors and to assist in enforcement of roadside parking restrictions. Utilize barriers, striping, and No Parking Zones to provide consistency and clarification for visitors and to assist in enforcement of roadside parking restrictions. Consider opportunities for third-party ticketing/warnings to increase enforcement. Develop and implement a unified branding and marketing strategy to promote no-car access to recreation areas. Utilize ITS to notify motorists of transit opportunities, when parking is full, and of sustainable access opportunities. Utilize real-time information (through the use of technology such as cameras, counters, ITS, and cell data) to inform the public of travel conditions and allow land managers to adapt strategies. Develop turnaround locations (such as a roundabout) near the north gate and south gates at Emerald Bay where motorists can return to park-n-ride locations or off-highway parking lots without creating congestion issues. Implement a multimodal travel system (i.e., shuttle, bike path, water taxi) to provide access to a sustainable number of visitors who would otherwise be displaced from the restriction/relocation of roadside parking. Water taxis should accommodate some bicycles. Improve bus stops to meet accessibility requirements, enforce no parking in bus stops, and connect bus stops to recreation areas by shared-use pathways. Develop a coordinated corridor parking management system that is implemented in tandem with transit and other implementation strategies and is either part of or aligned with a regional system. The management system should be designed to meet desired corridor outcomes. The parking management system should incorporate a reservation system as described in Item 6. Establish a predictable and sustainable funding source to pay for the parking management system and subsidize the transit, parking, and trails operations and maintenance. The system should address land manager requirements, such as fees for entry versus parking. The administrator of the system should be an entity that can work with partner agencies to pool resources and pursue other funding sources such as applying for State Transit Assistance (STA) funds and grant programs.	Item 1, Item 3, Item 4, Item 26; CW-1.02, CW-1.03, CW-1.04, WS-1.03, WS-2.04, WS-2.06, WS-2.07, WS-2.14, WS-4.05, WS-5.05	50 percent reduction in the length of delay time to get through the corridor. Mode share targets for each travel framework phase hits minimum of 80% of target. Visitor awareness of shuttle program. Results of travel surveys indicate a positive experience. 15% of visitors utilize a park-once strategy and access transit from their accommodations. Transit and parking management system have a predictable and sustainable funding source. Miles of No Parking Zones created	Yes - findings for restricting roadside parking are needed per the California vehicle code Increasing fine will need to be discussed at higher levels
6	Demand for recreation access peaks in the corridor from 10AM to 3PM creating stress on the transportation system and causing crowding and congestion.	Develop and implement a reservation system to disperse and manage demands throughout the day.	Item 3, Item 5, Item 26; CW-1.04	Peak hour curve is flattened with more people arriving earlier or later in the day. (Similar to Muir Woods case study.) Increased turnover rate in select areas, such as vista points, to enhance visitor photo opportunities.	
		Reservation system should provide options for different groups (e.g., pools for locals, pools for underserved groups that can't afford peak pricing).			
7	Parking facilities at Eagle Falls and Bayview trailheads are used by overnight recreation users accessing Desolation Wilderness.	Develop a transit system with early morning and late evening runs that serves overnight backcountry users and include parking and transit pass as part of the backcountry permit.	Item 3, Item 5; WS-2.06, WS-2.07	Sustained recreation access and travel experience to Desolation Wilderness access as measured by the number of backcountry users who reserve parking and/or transit passes as part of their backcountry permit. Number of backcountry visitors with a positive experience accessing the backcountry under the new system.	
8	Off-highway parking areas are closed in the winter and a portion of the off-season, causing recreation users to park along the highway shoulder to access recreation sites. Mild winters and winters with low snow levels result in significant sightseeing in Emerald Bay. Changes due to climate change increase the frequency of mild winters or snow levels at higher elevations. These changes increase the need to provide parking in the corridor during the winter.	Keep strategically located parking lots open year-round. Coordinate management strategies to allow for snow removal of parking areas in the winter after highway snow removal efforts are completed. Adaptively manage corridor parking areas to strategically identify roadside areas that may be appropriate for recreation access in the winter and off-season when transit is not operating.	Item 5, Item 7; WS-1.17, WS-1.18, WS-2.18, WS-3.04, WS-4.06, WS-5.06	Number of winter parking spaces available. Visitor experience rating increases due to safe available parking to their winter recreation destination.	

CORRIDOR CHALLENGES AND STRATEGIES

Item ID	Corridor Issues	Strategies	Associated Strategies and Projects (Item ID and Project ID)	Success Measurement	Does the Recommendation Require Additional Action at a County or State Level?
9	Roadway design, including hairpin turns and narrow shoulders, restricts transit access to Emerald Bay. Buses are restricted in capacity which impacts the cost of providing service.	Conduct a Project Study Report (PSR) of Emerald Bay and SR 89 south of Emerald Bay near Cascade Road to evaluate roadway design elements such as the following, while considering potential effects on visitation access from tour buses: Striping the fog line and rebuilding the shoulder of SR 89 near Cascade Road. Removing the final/tightest switchback as SR 89 enters Emerald Bay just west of Eagle Point Campground. Lowering the elevation of SR 89 along the ridgeline as the roadway passes between Emerald Bay and Cascade Lake to allow for a widened shoulder and guard rails.	Item 1, Item 26; WS-2.09	Improved frequency and reliability of transit service to Emerald Bay. Reduction in cost of transit service.	
10	Roadway design and operations restrict year-round access around Emerald Bay. This impacts commuters, emergency responders, and recreation access.	Conduct a Project Study Report (PSR) of Emerald Bay to evaluate roadway design elements as discussed in Item 9 and to evaluate avalanche control features and management strategies to improve year round access.	Item 11, Item 26; WS-2.09, WS-2.18	Minimum road closures of SR 89 in the winter.	
11	Limited access for emergency response and evacuation activities and to conduct fuels management and forest health management activities recommended by Lake Tahoe West Restoration Partnership.	<p>Improve Fallen Leaf Road for emergency response and evacuation needs. Install access gates and fire locks, if needed.</p> <p>Improve the Camp Richardson, Emerald Bay, and Sugar Pine Point State Park piers to have a multi-use function for lakeward emergency access.</p> <p>With potential land use reconfigurations at Jameson Beach Road, repurpose existing structures for summer police/fire staging and administration, operations.</p> <p>Develop emergency access and evacuation pullouts at regular intervals and sign and enforce no parking in pullouts, vehicles must not be left unattended.</p> <p>Consider a first responder base station at Camp Richardson.</p> <p>Designate and improve the road construction staging area west of Bayview Campground at Emerald Bay as a helipad access site.</p> <p>Develop evacuation plan.</p> <p>Provide strategically located turn around points along SR 89 (roundabouts, hammerheads, or pullouts) allowing emergency responders the ability to turn around and respond in the opposite direction.</p> <p>Provide helipad access.</p>	Item 10; WS-1.12, WS-1.13, WS-1.14, WS-2.08, WS-2.16, WS-2.17, WS-3.03, WS-4.04, WS-5.04	Emergency pull-outs located every 1/2 to 1 mile. Increased in-corridor emergency response staging locations.	
12	Motorists travel through high use recreation areas at high travel speeds, even during peak summer periods.	Implement a recreation corridor speed limit that allows for reducing the speed limit around recreation sites during the summer and other peak recreation use days.	Item 26, CW-1.11	Implementation of recreation zone speed limit.	Yes Recreation zone speed limit will need to be discussed at a state level to revise California vehicle code
13	Recreation use levels and limited operations and maintenance budgets have stretched land manager's ability to protect natural and cultural resources, address litter, and improve existing facility infrastructure from user impacts.	<p>Identify revenue generation and cost-saving opportunities.</p> <p>Support requests for increased budgets for operations and maintenance (annual and capital) including staffing of recreation areas and implementation of capital projects to manage user behavior, minimize impacts on natural and cultural resources, and align garbage management needs with operational resources.</p> <p>Manage corridor access to disperse use during peak periods and establish a framework for organizing and managing visitor arrivals.</p> <p>Develop agreements to allow revenue to stay local for reinvestment into the corridor.</p> <p>Utilize total asset management planning for facilities to consider full life-cycle costs.</p>	Item 3, Item 5, Item 26; CW-1.04, CW-1.07	Increased operation budgets for land managers to meet goals for public lands (including resource protection and visitor access.) Flexibility to spend dollars across jurisdictional boundaries.	
14	The need for improved piers and lack of staffing prevent the opportunity for water taxis to serve Camp Richardson, Emerald Bay, and Sugar Pine Point State Parks. The lack of improved piers impacts ADA/ABA access and prevents emergency response teams from easily accessing the water.	<p>Improve the piers at Camp Richardson and Emerald Bay and construct a new pier at Sugar Pine Point State Park to meet water taxi requirements and to double as emergency/public safety facilities.</p> <p>Increase staffing budgets to monitor and oversee uses at the piers.</p>	Item 5, Item 11, Item 13, Item 26; WS-1-14, WS-2.08, WS-5.09	Pier improvements completed and operational needs met.	
15	Lack of power and broadband and cellular infrastructure and fiber communications in the corridor impedes the ability to provide real-time travel information and implement corridor recommendations.	<p>Improve ITS infrastructure, address needs for a traffic operations center, and utilize ITS as key element of visitor communications to provide real-time information.</p> <p>Enhance broadband and fiber service where feasible.</p> <p>Co-locate technology and power infrastructure with the Tahoe Trail and roadway and infrastructure improvements.</p> <p>Evaluate opportunities for microcell technologies where other infrastructure enhancements are not feasible.</p> <p>Evaluate opportunities for microcell technologies where other infrastructure enhancements are not feasible.</p> <p>Evaluate opportunities with each project to co-locate or enhance existing utility infrastructure such as replacement of aging infrastructure or lack of utility infrastructure.</p> <p>Install electric vehicle charging stations.</p>	Item 1, Item 26; CW-1.01, CW-1.13, WS-1.07, WS-2.01, WS-2.2, WS-2.03, WS-2.10, WS-3.01, WS-3.02, WS-4.01, WS-4.02, WS-5.03	Access to technology improved along the corridor to support operations and real-time travel information. Improved utility infrastructure throughout the corridor. Electrification for vehicles and transit.	

CORRIDOR CHALLENGES AND STRATEGIES

Item ID	Corridor Issues	Strategies	Associated Strategies and Projects (Item ID and Project ID)	Success Measurement	Does the Recommendation Require Additional Action at a County or State Level?
16	Traffic congestion associated with Pope Beach entry and Eagle's Nest Campground.	<p>Implement recommendations associated with overall congestion management (Item 5).</p> <p>Extend bike path to Pope Beach.</p> <p>Relocate the entry kiosk and turn-around further north along Pope Beach Road to increase the vehicle capacity for queue along Pope Beach Road and off SR 89.</p> <p>Add a second entry lane along Pope Beach Road to increase throughput and decrease congestion. Consider an expedited lane for visitors without watercraft.</p> <p>Explore legislative changes that would allow agencies an opportunity to flatten the demand curve through variable pricing (come early, come late and pay a lower rate).</p> <p>Consider utilizing a reservation system to distribute demand.</p> <p>Utilize ITS to notify motorists of transit opportunities, when parking is full, and of alternative transportation options.</p> <p>Install electric vehicle charging stations at Pope Beach.</p> <p>Analyze Eagle's Nest Campground entry for possible operational improvements which may include a left turn lane, or a two-way left turn lane, or an improvement within the campground to hold a larger queue.</p>	Item 5, Item 26; WS-1.02	Reduced travel delays and vehicular queue along SR 89 at Pope Beach Road and Eagle's Nest Campground entry.	
17	Pedestrians crossing SR 89 at Jameson Beach Road cause vehicle delay.	<p>Utilize adaptive management to address the issue in stages and evaluate improvements.</p> <p>Phase 1: Relocate the crosswalk from the eastern leg of the intersection to the western leg. Consider installing a rail barrier at the eastern leg of the intersection to enforce use of the western leg, thereby allowing a free left turn by motorists exiting Jameson Beach Road. Relocate the Pope Baldwin Bike Path to behind the General Store.</p> <p>Phase 2: Restrict roadside parking. This will reduce the number of pedestrian crossings associated with people parking along the highway and using the pedestrian crossing to either reach the facilities located on either side of the roadway.</p> <p>Phase 3: Relocate the bike rental and ice cream shop uses to the northern side of the roadway and consider creating an outdoor plaza and use area associated with the relocated facilities. The existing buildings could be repurposed for offices for administrative uses and potentially emergency responder staging.</p> <p>Phase 4 (if success measures aren't met through Phase 1-3 efforts): Install a signal at the intersection to further control pedestrian movement across the highway.</p> <p>Analyze and consider additional operational improvements such as median turn lanes and intersection improvements.</p>	Item 5, Item 26; WS-1.04	Reduced travel delays and vehicular queue along SR 89 at Jameson Beach Road. Reduced number of pedestrian crossings by at least 75%.	
18	Disconnected recreation sites and parking lots within the Pope to Baldwin segment discourages visitation of recreation areas west of Camp Richardson and increases the frequency of motorists exiting and entering the highway to find parking.	<p>Implement recommendations associated with overall congestion management and source specific issues occurring at Pope Beach Road and Jameson Beach Road (Items 5, 16, and 17).</p> <p>Create an off-highway vehicular circulation route (with parallel shared-use pathway) that connects the use areas associated with the Tallac Historic Site and Jameson Beach Road to reduce the number of intersections along SR 89 and allow motorists to access underused parking areas (such as the Taylor Creek Visitor Center parking area) and disperse users to underutilized sites.</p> <p>Create shared-use path connections from the Pope to Baldwin Bike Path to beach recreation sites such as Camp Richardson and Baldwin Beach.</p> <p>Implement off-highway parking projects associated with the LTBMU approved projects as of 2020 (off-highway parking lot improvements for Kiva Point, Tallac, Valhalla, volunteer RV campground, Valhalla entrance, Baldwin Beach entrance, and snow play area off Fallen Leaf Road).</p>	Item 5, Item 26; WS-1.03	Increased dispersed use among recreation sites in the Pope to Baldwin Segment. Fully utilized off-highway parking lot resources within the segment. Reduced travel delay in the segment.	
19	The Pope to Baldwin Bike Path has high volumes of users in the summer which discourages some users from biking to recreation destinations in the Pope to Baldwin Segment.	<p>Create a cycle track in the Pope to Baldwin Segment utilizing the previously used roadside parking location to increase the capacity for cyclists to ride to their recreation destinations. Consider the shared use of the cycle track for priority transit access to bypass congested areas. Move the existing path to behind the General Store.</p> <p>Enhance the natural surface trails west of the highway to facilitate bike access from Gardner Mountain to the Camp Richardson area.</p> <p>Enhance the existing Pope to Baldwin Bike Path through the development of turnouts and vistas to allow slower moving users an opportunity to stop and take in the sites and move out of the way of other cyclists.</p> <p>Consider a left turn pocket for campground access.</p>	WS-1.16	Increased number of users arriving to the Pope to Baldwin segment by bicycle.	
20	Recreation corridor lacks a gateway that announces users have transitioned into a special area, visitor information and marketing strategies that promote transit, and consistent wayfinding to enable travelers to easily locate their destinations.	<p>Create recreation gateways at the southern and northern ends of the corridor.</p> <p>Incorporate visitor travel information into the Taylor Creek Visitor Center and potential new park-n-ride/bike locations in the corridor to share information about the recreation corridor and parking and transportation options.</p> <p>Implement Vikingsholm parking and visitor facility improvements per California State Park capital improvement program.</p> <p>Build off regional corridor branding to establish a consistent aesthetic and easy to understand wayfinding program.</p> <p>Promote regional marketing and communication strategies to build awareness of the proposed transportation system.</p>	CW-1.14, WS-1.19, WS-5.07	Improved wayfinding and visitor experience. Increased place recognition for overall corridor.	

CORRIDOR CHALLENGES AND STRATEGIES

Item ID	Corridor Issues	Strategies	Associated Strategies and Projects (Item ID and Project ID)	Success Measurement	Does the Recommendation Require Additional Action at a County or State Level?
21	Special events in the corridor are an economic driver, but they are also sources of significant traffic, create additional demand for parking, and can impact traffic flow if not managed.	<p>Create a checklist for event permits/approval so that permittees acquire all of the necessary permits and notify all of the required parties. Develop a coordinated calendar so events do not occur during the same time.</p> <p>Establish a travel access framework that can be utilized during large corridor events such as Oktoberfest.</p> <p>Enhance ability to host more special events in order to generate more revenue for corridor operations.</p>	Item 26	Coordinated permit and notification system.	
22	Roadway presents a barrier to wildlife movement from habitat areas to the lake.	<p>Create a wildlife crossing near West Way to facilitate wildlife movement under the roadway.</p> <p>Create a wildlife crossing in the Emerald Bay area to facilitate wildlife movement under the roadway.</p> <p>Design Meeks Creek Bridge and fish crossing structures to facilitate wildlife movement.</p>	WS-1.20, WS-2.19, WS-3.05, WS-4.07, WS-5.08	Reduced wildlife/vehicular incidents.	
23	Wildfire risk is increased with above ground powerlines in the corridor.	<p>Where feasible, underground powerlines and co-locate utilities with the Tahoe Trail corridor. Include conduit for future fiber-optic upgrades. Hardening of the infrastructure may be acceptable when undergrounding is not feasible.</p> <p>Consider electric vehicle charging needs as part of utility projects.</p>	Item 1; CW-1.01, CW-1.13, WS-2.01, WS-2.02, WS-2.03, WS-3.01, WS-4.01	Powerlines undergrounded.	
24	Stormwater improvements are degraded and do not function due to vehicles parking in them.	<p>Implement strategies associated with Item 5 and restrict/relocate roadside parking.</p> <p>Restore disturbed areas.</p>	Item 5; WS-1.03, WS-2.04, WS-2.06, WS-2.07	No vehicles parking in stormwater improvement areas. Improved lake clarity.	
25	The viaduct and Vikingsholm parking area have subsiding soils which require creative engineering and improving the Vikingsholm parking lot.	<p>Implement Vikingsholm parking and visitor facility improvements per California State Park capital improvement program.</p> <p>Encourage a multi-agency approach to the new improvements that consider leveraging partnerships and increasing grant options with by incorporating a segment of the Tahoe Trail from Vikingsholm to the wedding vista. Including Eagle Falls parking, transit pull-offs, and the Tahoe Trail as part of the project can reduce overall construction costs and interruption to traffic flow for visitors by consolidating project improvements.</p> <p>Consider tour bus access and management as part of parking lot planning and design.</p>	WS-2.05	Reconstruction and renovation of the Vikingsholm parking area with visitor facilities and placemaking.	
26	Implementation is tough and requires ongoing partnerships both at staff levels and at higher executive and bi-state levels to move recommendations forward and address funding issues.	<p>Continue convening the Bi-State Working Group on Transportation and establish Executive Level conversations by lead agencies to address procedural, legislative, code, enforcement, capacity, funding, environmental review, cross jurisdictional resolution, and other high priority issues.</p> <p>It is recognized that top-level agency support is needed for agency staff to participate and have adequate time and operational dollars to be engaged in the partnership. And executive involvement is critical to allow decision-making and conflict resolution to occur for challenging issues.</p> <p>Formalize agency partnerships, decision-making process, conflict resolution, and roles and responsibilities through an Interlocal Agreement modeled from the SR 28 CMP Interlocal Agreement (see appendix). The agreement, or memorandum of understanding, should document the commitment to work together and leverage joint projects to address the shared issues.</p> <p>Develop a Corridor Management Team (CMT) at the staff level to move forward implementation strategies. The CMT should work together to address challenges and fine tune operations and maintenance elements. Staff should coordinate project priorities and focus on finding opportunities for joint projects to leverage funding and maximize project benefits by having a corridorwide perspective. Discussion topics include, but are not limited to Tahoe Trail completion, project coordination, continued public outreach, implementation and fine-tuning of the parking management and reservation system, monitoring visitation levels and resolving corridor challenges/hot spots as they arise, congestion, creative solutions, safety, emergency access, evacuation planning, year-round access, roadway design, avalanche control, enforcement, leveraging funding, bundling projects, joint grant applications, and litter management.</p> <p>The CMT should consider the following to be effective:</p> <ul style="list-style-type: none"> -Decision-making rules should be established, i.e., deciding whether consensus is required to move forward on a given action. It should be recognized that land managers have final authority for decisions on their lands while having a goal for consistency in the overall approach for the corridor. -Projects and implementation actions should be made in consideration to how they help the overall corridor achieve its goals. -Staff from a lead agency should be identified to set agendas, send meeting invites, secure meeting venues, and record meeting minutes and outcomes. The lead agency can rotate every year to two years. -A partnership chair should be determined to help set agendas and run meetings. -Establish a regular meeting schedule (at least quarterly and for enough time to have a rich and productive discussion where outcomes and roles and responsibilities are reviewed). -Accountability is essential. Each meeting should result in specific actions assigned to individuals or agencies and a timeline for their completion. -Conflict resolution should occur quickly. Engage decision-makers early to get buy-in and clear direction. 	Implementation of plan strategies and projects is tightly connected to the partnership moving forward and establishing project leads to champion plan implementation.	Interlocal agreement signed. Executive team continues and engages high level support from all lead agencies. Necessary legislative changes enacted and agreements made for plan implementation and revenue. Partnership formed and decision-making process established and agreed upon. Regular meetings occur. CMP is implemented.	

CORRIDOR CHALLENGES AND STRATEGIES

Item ID	Corridor Issues	Strategies	Associated Strategies and Projects (Item ID and Project ID)	Success Measurement	Does the Recommendation Require Additional Action at a County or State Level?
27	Private operators can help shift visitor trips from personal vehicles to higher occupancy transportation modes. Operators should work toward corridor goals and desired outcomes for the protection of natural and cultural resources and visitor travel experience. Micro-transit, tours, water taxis, and private shuttles can support visitor management and provide opportunities for interpretation and improved visitor experience, but they are not a substitute for public transit.	<p>Explore public/private solutions, including opportunities for micro-transit and tour companies to provide services that are compatible with the corridor vision and desired outcomes. Private operations should acknowledge the need to manage visitation levels as part of the overall corridor strategy.</p> <p>Designate areas for tour bus parking, private shuttles, and ride-share curb space to prevent negative impacts associated with private operators parking in bus stops and viewpoints and disrupting the parking management system. For example, the proposed Bayview parking area can be designed to accommodate a certain number of tour buses. Visitors can then explore the rest of Emerald Bay by trail connections, public transit, and/or micro-transit. This would reduce conflicts that tour buses may pose in smaller parking areas.</p> <p>Establish a permit system with fee for private operations where the fee is reinvested into the corridor transportation system. The permit system should consider the size and number of tour buses allowed and timing of arrivals in order to achieve desired outcomes of dispersing visitation and managing overall visitation numbers.</p> <p>Evaluate opportunities for public or private micro-transit or shuttles, consistent with corridor capacity and vehicle requirements, to reduce congestion and greenhouse gases within the corridor related to recreation travel.</p> <p>Support shuttles or tour operators with bike/gear trailers to encourage people to park their vehicles and travel the corridor without a personal vehicle. The schedule for private operations with bike trailers may not be as impacted by off-loading/on-loading time for bicycles and other recreation gear.</p>	Reduced number of private vehicles on SR 89.	Item 3 Projects: CW-1.02, CW-1.03, CW-1.04, CW-1.05, CW-1.06, WS-1.01, WS-1.03, WS-1.08, WS-1.09, WS-1.10, WS-1.11, WS-1.14, WS-2.04, WS-2.06, WS-2.07, WS-2.08, WS-2.11, WS-2.12, WS-2.13, WS-2.14, WS-4.03, WS-5.01, WS-5.02	
28	Global changes to climate patterns results in vulnerabilities and impacts to environmental, economic, and social systems.	<p>Improve access for fuels reduction and forest health management activities recommended by Lake Tahoe West Restoration Partnership.</p> <p>Where feasible, underground powerlines and co-locate utilities with the Tahoe Trail corridor. Include conduit for future fiber-optic upgrades. Hardening of the infrastructure may be acceptable when undergrounding is not feasible.</p> <p>Install electric vehicle charging stations.</p> <p>Prioritize the use of electric buses and water taxis fueled by clean energy, to the extent their use is not cost prohibitive.</p> <p>Design facilities to reduce risks of flooding, manage runoff, and be inviting during times of climatic imbalance, such as extreme heat or drought.</p> <p>Implement multi-modal strategies and parking management programs and construct associated infrastructure to reduce VMT and GHG.</p> <p>Establish individual project goals and metrics to reduce impacts on natural resources and provide benefits to accelerate threshold attainment.</p> <p>Track visitation patterns, including changes and increases associated with climate change. Adapt strategies to address changes in patterns.</p> <p>Coordinate with and implement strategies from climate action plans around the region.</p>	Item 3, Item 8, Item 10, Item 11, Item 15, Item 23, Item 24 Projects: CW-1.02, CW-1.03, CW-1.04, CW-1.05, CW-1.06, WS-1.01, WS-1.03, WS-1.08, WS-1.09, WS-1.10, WS-1.11, WS-1.14, WS-2.04, WS-2.06, WS-2.07, WS-2.08, WS-2.11, WS-2.12, WS-2.13, WS-2.14, WS-4.03, WS-5.01, WS-5.02	Reduced environmental impact and accelerated threshold attainment. Increased number of fuels reduction projects in the corridor.	

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RECOMMENDED PROJECTS AND PARTNERS

RECOMMENDED PROJECTS AND PARTNERS

SR 89 RECREATION CORRIDOR MANAGEMENT PLAN Recommended Projects and Partners Matrix										*Operations Planning Design/Engineering Monitoring															
Project ID	Project Name	Description	Project Type*				Phase	Project Lead	Landowner/ Management Agency(is)	Consider Coordination with Other Projects (ID's)	EIP Project Correlation	Potential Partners													
			OP	PL	D/E	MO						TTD	USFS	CDPR	CALTRANS	CHP	EDC SHERIFF	EDC	TRPA	TRIBE	VENDOR	PC	CSLT	TART	
SR 89 RECREATION CORRIDOR SEGMENTS CORRIDORWIDE PROJECTS (OR ASSOCIATED WITH THREE OR MORE CORRIDOR SEGMENTS)																									
CW-1.01	Tahoe Trail Feasibility Study	Conduct feasibility study and develop alternative alignments for the Tahoe Trail from Spring Creek Road to Meeks Bay Resort.		X			1	USFS	USFS, CDPR, CALTRANS	CW-1.11, CW-1.13	#04.01.02.0060	X	X	X	X			X	X	X					
CW-1.02	ITS and shuttle marketing	Corridor ITS signage for realtime travel information and corridorwide shuttle marketing program	X	X		X	1	TTD	USFS, CDPR, CALTRANS	CW-1.03	#03.01.02.0115 #03.01.02.0054	X	X	X	X			X	X	X	X		X	X	X
CW-1.03	Realtime transit and parking app	Corridorwide realtime notification of parking availability and transit opportunities through mobile app	X	X		X	1	TTD	USFS, CDPR, CALTRANS	CW-1.02	#03.01.02.0102	X	X	X	X			X	X	X	X		X	X	X
CW-1.04	Reservation and parking management and revenue system framework and collection	Reservation and parking management and revenue programs for Pope to Baldwin and Emerald Bay Segment parking areas and transit. Addresses fee collection and operation of system in coordination with partner requirements. Develop and initiate revenue coordinated system and revenue collection in Phase I.	X			X	1	TTD	USFS/CDPR	CW-1.02, CW-1.03	#03.01.02.0038 #03.01.02.0054	X	X	X				X		X					
CW-1.05	Develop a South Shore transit maintenance facility	Develop a South Shore transit maintenance facility (facility likely to not be located in the corridor, but is needed to operate desired transit levels in the corridor)		X	X		2	TTD	EC/CSLT	WS-1.03, WS-2.04, WS-2.04, WS-2.06, WS-2.07	#03.01.02.0038 #03.01.02.0136	X						X	X				X		
CW-1.06	Water taxi partnership	Subsidizing private water taxi operations to increase service levels and keep costs affordable for public access to the SR 89 Corridor.	X				2	TTD	USFS/CDPR	WS-1.03, WS-1.14, WS-2.04, WS-2.04, WS-2.06, WS-2.07		X	X	X				X		X					
CW-1.06A	South Shore water taxi partnership	Subsidies for South Shore water taxi service to Camp Richardson and Emerald Bay	X				3	TTD	USFS/CDPR	WS-2.06, WS-2.07, WS-2.08	#03.01.02.0121 #03.01.02.0127	X	X	X				X		X					
CW-1.06B	North Shore water taxi partnership	Subsidies for North Shore water taxi service to Camp Richardson and Emerald Bay	X				2	TTD	USFS/CDPR	WS-2.06, WS-2.07	#03.01.02.0127	X	X	X				X		X					
CW-1.07	Increased operation budgets	Increase operation budgets for land managers to effectively balance visitation and natural and cultural resource protection.	X				1	USFS/CDPR	USFS/CDPR/ CALTRANS			X	X	X	X	X	X	X	X	X	X				
CW-1.08	Regional visitation study	Build upon the Linking Tahoe Corridor Connection Plan, Sustainable Recreation Planning, Forest Plan, and Corridor Planning and conduct a regional visitation study to help monitor and inform management decisions as corridor management moves forward and address displacement of increasing visitation demands.	X			X	2	TRPA/TTD	USFS/CDPR	WS-1.03, WS-2.04, WS-2.04, WS-2.06, WS-2.07	#03.01.02.0140	X	X	X				X	X	X	X	X	X	X	
CW-1.09	Future transit stop development	Evaluate the potential for additional transit stops and transit system based on corridor use and meeting CMP objectives.	X			X	3	TTD	USFS/CDPR/ CALTRANS	WS-1.03, WS-2.04, WS-2.04, WS-2.06, WS-2.07	#03.01.02.0054	X	X	X	X									X	
CW-1.10	Monitoring	Monitor achievement of CMP objectives annually with responsibility scheduled quarterly.				X	1, 2, 3	TTD	USFS/CDPR/ CALTRANS		#01.01.03.0036 #03.01.02.0054	X	X	X	X	X	X	X	X	X	X	X	X	X	
CW-1.11	Recreation zone speed limit	Develop and implement a recreation zone speed limit that can be enacted in high use recreation zones during peak use periods.	X			X	1, 2, 3	TRPA	CALTRANS	CW-1.01	#01.01.03.0036 #03.01.02.0054	X	X	X	X	X	X	X	X	X	X	X	X	X	
CW-1.12	Bike lanes or widened shoulders	Evaluate feasibility of including bike lanes or widened shoulders with removal of shoulder parking. At a minimum, in steep sections consider a bike lane in the uphill direction and corresponding sharrow in the downhill direction.		X			3	TRPA	CALTRANS	CW-1.01	#01.01.03.0036 #01.01.03.0036	X	X	X	X	X	X	X	X						
CW-1.13	Utility undergrounding	Pursue opportunities for utility undergrounding and co-locate fiber for broadband access.		X	X		1, 2, 3	TTD	USFS/CDPR	CW-1.01	#03.01.02.0054	X	X	X	X	X	X	X	X	X	X	X	X	X	
CW-1.14	Interpretive program and consistent, coordinated wayfinding signage	Develop a corridorwide interpretive program and theme and wayfinding signage.	X	X	X		1, 2, 3	USFS	USFS/CDPR/ CALTRANS	CW-1.01, CW-1.02, CW-1.03, WS-1.19	#01.01.03.0036 #03.01.02.0054	X	X	X	X	X	X	X	X	X	X	X			
CW-1.15	North/South multi-use single track trail	Develop a multi-use single track trail as a mid-slope alignment for a single track trail to serve multi-use trail users.		X	X		1	USFS	USFS				X					X	X			X			
CW-1.16	Site capacity studies throughout corridor	Assess capacity and develop desired conditions and metrics for individual corridor recreation sites	X			X	1	USFS/CDPR	USFS/CDPR	WS-1.03, WS-2.04, WS-2.04, WS-2.06, WS-2.07	#03.01.02.0140	X	X	X				X	X	X	X	X			
CS-1.17	Funding/financing plans	Develop a funding/finance plan with each implementation phase	X				1, 2, 3	TTD	USFS/CDPR/ CALTRANS			X	X	X	X			X	X	X	X	X			
1-POPE TO BALDWIN SEGMENT																									
WS-1.01	SnoPark parking and transit stop	Improvements to the existing SnoPark parking area to delineate parking areas and designate an area for a temporary shuttle service from SnoPark to Emerald Bay. Improvements should recognize and be designed to not impact Washoe cultural uses and events.				X	1	TTD	USFS/TRIBE	CW-1.02, CW-1.03	#03.01.02.0054	X	X						X						
WS-1.02	Point source congestion management at Pope Beach Road	Relocate the entry kiosk further north along Pope Beach Road to increase the vehicle capacity for queue along Pope Beach Road and off SR 89. Add a second entry lane along Pope Beach Road to increase throughput and decrease congestion. Consider an expedited lane for visitors without watercraft. Consider opening entry into the recreation area earlier in the morning to shift demand. Consider utilizing a reservation system to distribute demand. Utilize ITS to notify motorists of transit opportunities, when parking is full, and sustainable access opportunities. Add electric vehicle charging stations.	X	X	X	X	1 & 2	USFS	USFS	CW-1.02, CW-1.03	#01.01.03.0036 #03.01.02.0054	X	X		X			X	X		X				
WS-1.03	Phase 2 and 3 transit framework , roadside parking restrictions/relocation, and parking lot and circulation improvements	Summer transit/shuttle service to segment recreation areas Restrict/relocate roadside parking, increase enforcement, and utilize barriers to facilitate compliance USFS LTBMU Tallac Historic Site BMP Retrofit Project Internal circulator road (extend to Jameson Beach Road) Shared-use path connections paralleling the internal circulator road Parking area expansions Consistent and cohesive signage system for recreation sites and parking areas					2	TTD/USFS	USFS	CW-1.02, CW-1.03	#01.01.04.0014	X	X		X	X	X	X	X	X	X				
WS-1.04	Point source congestion management at Jameson Beach Road	Utilize adaptive management to address the issue in stages and evaluate improvements. Phase 1: Relocate the crosswalk from the eastern leg of the intersection to the western leg. Consider installing a rail barrier at the eastern leg of the intersection to enforce use of the western leg, thereby allowing a free left turn by motorists exiting Jameson Beach Road. Relocate the Pope Baldwin Bike Path so it crosses Jameson Beach Road further to the north and away from the SR 89/Jameson Beach Road intersection. Phase 2: Restrict roadside parking. This will reduce the number of pedestrian crossings associated with people parking along the highway and using the pedestrian crossing to either reach the uses located on either side of the roadway. Phase 3: Relocate the bike rental and ice cream shop uses to the northern side of the roadway and consider creating an outdoor plaza and use area associated with the relocated facilities. The existing buildings could be repurposed for offices for administrative uses and potentially emergency responder staging. Phase 4: Install a signal at the intersection to further control pedestrian movement across the highway.	X	X	X	X	1, 2, & 3	USFS	USFS	CW-1.02, CW-1.03	#01.01.03.0036 #03.01.02.0054	X	X		X			X	X		X				
WS-1.05	Jameson Beach Road shared use path	Develop a shared use path paralleling Jameson Beach Road from SR 89 to the beach		X	X		1	USFS	USFS		#01.01.03.0036	X	X					X		X					

*Project Type:
Operations, Planning, Design/Engineering, Monitoring

RECOMMENDED PROJECTS AND PARTNERS

Project ID	Project Name	Description	Project Type*				Phase	Project Lead	Landowner/ Management Agency(is)	Consider Coordination with Other Projects (ID's)	EIP Project Correlation	Potential Partners														
			OP	PL	D/E	MO						TTD	USFS	CDPR	CALTRANS	CHP	EDC SHERIFF	EDC	TRPA	TRIBE	VENDOR	PC	CSLT	TART		
WS-1.06	Baldwin Beach Road shared use path	Develop a shared use path paralleling Baldwin Beach Road from SR 89 to the beach		X	X		1	USFS	USFS		#03.01.02.0044	X	X					X			X					
WS-1.07	Increase technology infrastructure and bandwidth in corridor segment	Increase technology infrastructure and bandwidth in corridor segment, including ability to use ITS	X	X	X		1 & 2	TTD	USFS/ CALTRANS	CW-1.02, CW-1.03	#03.01.02.0054	X	X		X			X	X							
WS-1.08	Transit stop at Pope Beach Road	Transit stop at Pope Beach Road (evaluate potential for both northbound and southbound stops)		X	X		2	TTD	USFS/ CALTRANS	CW-1.02, CW-1.03, WS-1.03, WS-1.05, WS-1.06, WS-2.04, WS-2.04, WS-2.06, WS-2.07, WS-2.11, WS-2.12, WS-2.13	#03.01.02.0054	X	X		X						X					
WS-1.09	Transit stop at Jameson Beach Road	Transit stop at Jameson Beach Road (evaluate potential for both northbound and southbound stops)		X	X		2	TTD	USFS/ CALTRANS	CW-1.02, CW-1.03, WS-1.03, WS-1.05, WS-1.06, WS-2.04, WS-2.04, WS-2.06, WS-2.07, WS-2.11, WS-2.12, WS-2.13	#03.01.02.0054	X	X		X						X					
WS-1.10	Transit stop at Baldwin Beach Road	Transit stop at Baldwin Beach Road (evaluate potential for both northbound and southbound stops)		X	X		2	TTD	USFS/ CALTRANS	CW-1.02, CW-1.03, WS-1.03, WS-1.05, WS-1.06, WS-2.04, WS-2.04, WS-2.06, WS-2.07, WS-2.11, WS-2.12, WS-2.13	#03.01.02.0054	X	X		X						X					
WS-1.11	Evaluate park-n-ride/bike locations at the Y and West Way	Conduct feasibility study for park-n-ride/bike location at the Y and West Way		X	X		1	USFS/TTD	USFS/EC/CSLT	CW-1.02, CW-1.03, WS-1.03, WS-1.05, WS-1.06, WS-2.04, WS-2.04, WS-2.06, WS-2.07, WS-2.11, WS-2.12, WS-2.13	#03.01.02.0123	X	X		X			X	X				X			
WS-1.12	Improve Fallen Leaf Road for Emergency and Recreation Access	Improve Fallen Leaf Road for Emergency and Recreation Access		X	X		1	EDC	EDC/USFS		#03.1.2.0141		X					X								
WS-1.13	Formalize emergency turnouts	Formalize emergency turnouts (design as slow vehicle turnouts if possible)			X		2	USFS/ CALTRANS	USFS/ CALTRANS	CW-1.02, CW-1.03, WS-1.18, WS-2.09, WS-2.16, WS-3.03, WS-3.04, WS-4.06, WS-5.04	#01.01.03.0036	X	X		X	X	X	X	X							
WS-1.14	Camp Richardson pier - emergency access and transit access	Evaluate the opportunity to utilize the Camp Richardson pier for emergency access and water taxi access.		X	X		2 & 3	TTD	USFS	CW-1.06	#01.01.03.0036	X	X			X	X	X	X		X					
WS-1.15	Gardner Mountain trail access	Improve natural surface trail access from Gardner Mountain to Camp Richardson.		X	X		2	USFS	USFS		#01.01.03.0036	X	X				X	X								
WS-1.16	Increase capacity for cyclist access to Camp Richardson	Evaluate increasing shared use path facilities or developing a seasonal cycle track along SR 89 to Camp Richardson from South Lake Tahoe. Consider opportunity for cycle track to be designed as a shared bike/transit only lane during the summer season.		X	X		2	TTD	USFS/ CALTRANS	WS-1.03, WS-2.04, WS-2.04, WS-2.06, WS-2.07	#01.01.03.0036	X	X		X			X	X							
WS-1.17	Develop snow access parking areas in the segment.	Implement USFS planned projects for parking to access winter recreation activities near Fallen Leaf Road.		X	X		2	USFS	USFS	WS-1.03, WS-1.18, WS-2.04, WS-2.04, WS-2.06, WS-2.07			X					X		X						
WS-1.18	Off-season and winter parking lot access.	Develop USFS operational measures to allow off-highway parking areas to remain open during the off-season and winter to provide for winter recreation access.	X				2	USFS	USFS	CW-1.02, CW-1.03, WS-1.17, WS-2.18, WS-3.04, WS-4.06, WS-5.06		X	X	X	X	X	X	X	X	X	X					
WS-1.19	Recreation Corridor Gateway Sign (near West Way)	Recreation gateway signage to communicate to visitors that they have entered into a special area. Consider incorporating ITS as part of signage system.			X		1	USFS	USFS	CW-1.14, WS-5.07		X	X	X	X			X	X	X	X					
WS-1.20	Incorporate wildlife crossing improvements in the segment, as appropriate	Evaluate locations for improved wildlife crossing features and separated crossing structures and implement as appropriate.		X	X		2	TRPA	USFS/ CALTRANS	CW-1.01	#01.01.03.0036		X		X				X	X						
WS-1.21	Pope Beach Road shared use path	Develop a shared use path paralleling Pope Beach Road from SR 89 to the beach		X	X		1	USFS	USFS		#03.01.02.0045	X	X						X		X					
WS-1.22	Fallen Leaf Lake Road and Spring Creek Road Parking Lots	Develop parking lots near the Fallen Leaf Lake Road and Spring Creek Road intersections		X	X		1	USFS	USFS				X		X				X							
WS-1.23	Operational improvements at Eagle's Nest Campground entry	Analyze Eagle's Nest Campground entry for possible operational improvements to hold a larger queue	X	X	X	X	1, 2, & 3	CALTRANS	USFS	CW-1.02, CW-1.03	#01.01.03.0036 #03.01.02.0054	X	X		X	X	X	X	X		X					
2-EMERALD BAY SEGMENT																										
WS-2.01	Tahoe Trail - Spring Creek Road to Eagle Point Campground	Develop Tahoe Trail segment from Spring Creek Road to Eagle Point Campground		X	X		2	USFS	USFS/CDPR CALTRANS	CW-1.01	#04.01.02.0060	X	X	X	X			X	X	X						
WS-2.02	Tahoe Trail - Eagle Point Campground to Boat-in Campground Road	Develop Tahoe Trail segment from Eagle Point Campground to Boat-in Campground Road		X	X		3	USFS	USFS/CDPR CALTRANS	CW-1.01	#04.01.02.0060	X	X	X	X			X	X	X						
WS-2.03	Tahoe Trail - Boat-in Campground Road to DL Bliss State Park	Develop Tahoe Trail segment from Boat-in Campground Road to DL Bliss State Park		X	X		2	USFS	USFS/CDPR CALTRANS	CW-1.01	#04.01.02.0060	X	X	X	X			X	X	X						
WS-2.04	Phase I transit service, roadside parking restrictions/relocation, and temporary parking improvements	Summer transit/shuttle service to segment recreation areas Restrict/relocate roadside parking, increase enforcement, and utilize barriers to facilitate compliance Pave and install temporary meters to allow temporary roadside parking in locations that will be converted to future emergency access pull-outs or viewpoints		X	X		1	TTD/USFS	USFS/CDPR CALTRANS	CW-1.02, CW-1.03	#01.01.04.0014	X	X	X	X	X	X	X	X	X	X					
WS-2.05	Vikingsholm vista parking, Eagle Falls, parking, Tahoe Trail connection and transit stops	Improve and expand Vikingsholm parking area and Eagle Falls roadside parking area to include transit stop, visitor amenities, and the Tahoe Trail alignment from the viewpoint east of Eagle Falls to Vikingsholm		X	X		2	CDPR/USFS	CDPR/ USFS/CALTRANS	CW-1.01	#03.01.02.0115 #03.01.02.0054	X	X	X	X	X	X	X	X							
WS-2.06	Phase 2 transit and parking management framework	Refine and implement increased transit access and correlated increased restriction/relocation of roadside parking throughout segment Convert Bayview Campground to small parking site with integrated transit stop and grade-separated pedestrian/bike crossing to Inspiration Point and evaluate options for relocating campsites to another location in the corridor		X	X		2	TTD/USFS	CDPR/ CALTRANS	CW-1.02, CW-1.03, WS-1.03, WS-1.05, WS-1.06, WS-2.04, WS-2.04, WS-2.06, WS-2.07, WS-2.11, WS-2.12, WS-2.13	#01.01.03.0036	X	X	X	X	X	X	X	X		X					
WS-2.07	Phase 3 transit and parking management framework	Refine and implement increased transit access and increased enforcement and barriers to restrict roadside parking		X	X		2	TTD/USFS	CDPR/ CALTRANS	CW-1.02, CW-1.03, WS-1.03, WS-1.05, WS-1.06, WS-2.04, WS-2.04, WS-2.06, WS-2.07, WS-2.11, WS-2.12, WS-2.13	#01.01.03.0036	X	X	X	X	X	X	X	X		X					
WS-2.08	Emerald Bay State Park pier	Improve Emerald Bay State Park pier and increase operational resources to facilitate water taxi service to the area	X	X	X		2	CDPR	CDPR	CW-1.06	#01.01.03.0036	X		X					X		X					
WS-2.09	Year round access and road design improvements	Project Study Report to evaluate year round access improvements through avalanche control, reduction of switchbacks, and lowering elevation of road from Eagle Point Campground entry west for approximately 1/2 mile	X	X	X		1	TTD	CALTRANS/ USFS/CDPR	CW-1.01	#01.01.03.0036	X	X	X	X	X	X	X	X			X	X			
WS-2.10	Increase technology infrastructure and bandwidth in corridor segment	Increase technology infrastructure and bandwidth in corridor segment, including ability to use ITS	X	X	X		1 & 2	TTD	USFS/CDPR/ CALTRANS	CW-1.01	#03.01.02.0115	X	X	X	X			X	X							
WS-2.11	Transit stop at Inspiration Point	Transit stop at Inspiration Point (evaluate potential for both northbound and southbound stops)		X	X		2	TTD	USFS/ CALTRANS	CW-1.02, CW-1.03, WS-1.03, WS-1.05, WS-1.06, WS-2.04, WS-2.04, WS-2.06, WS-2.07, WS-2.11, WS-2.12, WS-2.13	#03.01.02.0115	X	X		X						X					

*Project Type:
Operations, Planning, Design/Engineering, Monitoring

RECOMMENDED PROJECTS AND PARTNERS

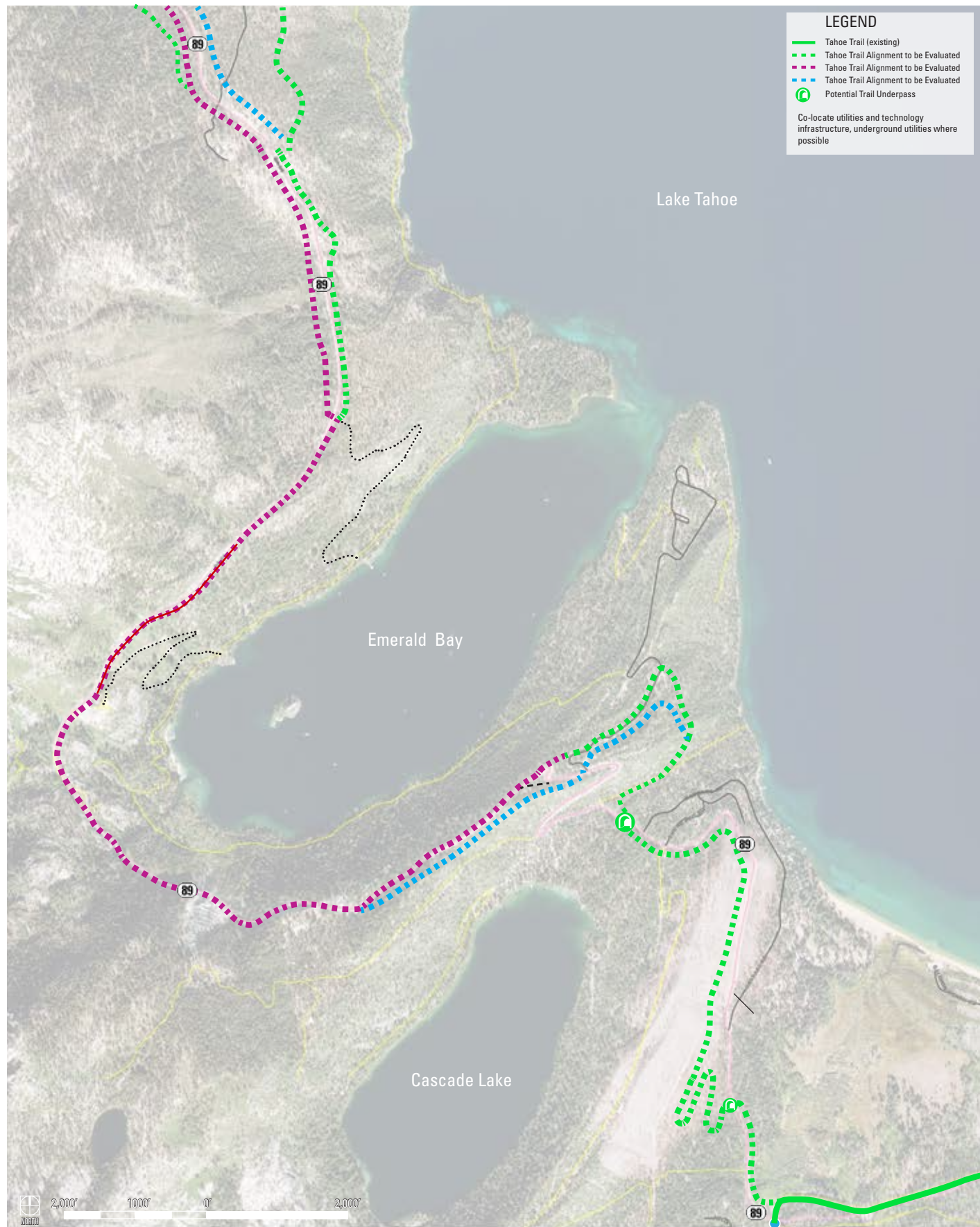
Project ID	Project Name	Description	Project Type*				Phase	Project Lead	Landowner/ Management Agency(is)	Consider Coordination with Other Projects (ID's)	EIP Project Correlation	Potential Partners													
			OP	PL	D/E	MO						TTD	USFS	CDPR	CALTRANS	CHP	EDC SHERIFF	EDC	TRPA	TRIBE	VENDOR	PC	CSLT	TART	
WS-2.12	Transit stop at Eagle Point Campground	Transit stop at Eagle Point Campground (evaluate potential for both northbound and southbound stops)		X	X		2	TTD	USFS/ CALTRANS	CW-1.02, CW-1.03, WS-1.03, WS-1.05, WS-1.06, WS-2.04, WS-2.04, WS-2.06, WS-2.07, WS-2.11, WS-2.12, WS-2.13	#03.01.02.0115	X	X		X						X				
WS-2.13	Transit stop at Eagle Falls Viewpoint	Transit stop at Eagle Falls Viewpoint (southbound)		X	X		2	TTD	USFS/ CALTRANS	CW-1.02, CW-1.03, WS-1.03, WS-1.05, WS-1.06, WS-2.04, WS-2.04, WS-2.06, WS-2.07, WS-2.11, WS-2.12, WS-2.13	#03.01.02.0115	X	X		X						X				
WS-2.14	Vehicular and transit turnarounds	Develop transit and vehicular turnarounds, such as small roundabouts at the northern and southern ends of Emerald Bay to facilitate traffic and transit movement through Emerald Bay		X	X		2	TTD	CALTRANS/ USFS/CDPR	CW-1.01, WS-2.09	#01.01.03.0036 #03.01.02.0115	X	X	X	X	X	X	X	X						
WS-2.15	Formalize northbound viewpoint near Eagle Falls	Formalize northbound viewpoint near Eagle Falls and existing wedding venue for short-term, paid parking		X	X		2	TTD	CALTRANS/ CDPR	WS-2.04	#01.01.03.0036 #03.01.02.0115	X	X	X	X	X	X	X	X		X				
WS-2.16	Formalize emergency turnouts	Formalize emergency turnouts (design as slow vehicle turnouts if possible)			X		2	USFS/ CALTRANS	USFS/ CALTRANS	CW-1.02, CW-1.03, WS-1.13, WS-1.18, WS-2.09, WS-3.03, WS-3.04, WS-4.06, WS-5.04	#01.01.03.0036	X	X		X	X	X	X	X						
WS-2.17	Designate helipad site	Improve and designate staging area west of Bayview Campground to serve as a helipad site for emergency access	X	X	X		1	USFS/ CALTRANS	USFS/ CALTRANS		#01.01.03.0036		X		X	X	X		X						
WS-2.18	Off-season and winter parking lot access	Develop USFS operational measures to allow off-highway parking areas to remain open during the off-season and winter to provide for winter recreation access.	X				2	USFS	USFS	CW-1.02, CW-1.03, WS-1.18, WS-2.09, WS-3.04		X	X	X	X	X	X	X	X	X	X				
WS-2.19	Incorporate wildlife crossing improvements in the segment, as appropriate	Evaluate locations for improved wildlife crossing features and separated crossing structures and implement as appropriate.		X	X		1	CALTRANS	CALTRANS	WS-2.01	#01.01.03.0036		X		X				X	X					
3-RUBICON BAY SEGMENT																									
WS-3.01	Tahoe Trail - DL Bliss State Park to Meeks Bay	Develop Tahoe Trail segment from DL Bliss State Park to Meeks Bay (including underpasses for crossing, where needed) Underground powerlines and co-locate technology infrastructure where possible		X	X		2	USFS	USFS/CDPR CALTRANS	CW-1.01	#04.01.02.0060	X	X	X	X			X	X	X					
WS-3.02	Increase technology infrastructure and bandwidth in corridor segment	Increase technology infrastructure and bandwidth in corridor segment, including ability to use ITS	X	X	X		1 & 2	TTD	USFS/CDPR/ CALTRANS	CW-1.01	#03.01.02.0115	X	X	X	X			X	X						
WS-3.03	Formalize emergency turnouts	Formalize emergency turnouts (design as slow vehicle turnouts if possible)			X		2	USFS/ CALTRANS	USFS/ CALTRANS	CW-1.02, CW-1.03, WS-1.13, WS-1.18, WS-2.09, WS-2.16, WS-3.04, WS-4.06, WS-5.04	#01.01.03.0036	X	X		X	X	X	X							
WS-3.04	Off-season and winter parking lot access	Develop USFS operational measures to allow off-highway parking areas to remain open during the off-season and winter to provide for winter recreation access and evaluate trail access needs and options in alignment with local plans	X				2	USFS	USFS	CW-1.02, CW-1.03, WS-1.18, WS-2.09, WS-4-06, WS-5.06		X	X	X	X	X	X	X	X	X	X				
WS-3.05	Incorporate wildlife crossing improvements in the segment, as appropriate	Evaluate locations for improved wildlife crossing features and separated crossing structures and implement as appropriate.		X	X		2	TRPA	USFS/ CALTRANS	CW-1.01	#01.01.03.0036		X		X				X	X					
WS-3.06	Intersection improvement at SR 89 and Mountain Drive	Intersection improvement at SR 89 and Mountain Drive		X	X		2	TRPA	USFS/ CALTRANS	CW-1.01					X			X	X						
4-MEEKS BAY SEGMENT																									
WS-4.01	Tahoe Trail - Within Meeks Bay	Develop Tahoe Trail segment from DL Bliss State Park to Meeks Bay Underground powerlines and co-locate technology infrastructure where possible		X	X		2	USFS	USFS/CDPR CALTRANS	CW-1.01	#04.01.02.0060	X	X	X	X			X	X	X					
WS-4.02	Increase technology infrastructure and bandwidth in corridor segment	Increase technology infrastructure and bandwidth in corridor segment, including ability to use ITS	X	X	X		1 & 2	TTD	USFS/CDPR/ CALTRANS	CW-1.01	#03.01.02.0115	X	X	X	X			X	X						
WS-4.03	Transit stop at Meeks Bay	Transit stop at Meeks Bay (evaluate potential for both northbound and southbound stops)		X	X		2	TTD	USFS/ CALTRANS	CW-1.02, CW-1.03	#03.01.02.0115 #03.01.02.0138	X	X		X						X				
WS-4.04	Formalize emergency turnouts	Formalize emergency turnouts (design as slow vehicle turnouts if possible)			X		2	USFS/ CALTRANS	USFS/ CALTRANS	CW-1.02, CW-1.03, WS-1.13, WS-1.18, WS-2.09, WS-2.16, WS-3.03, WS-3.04, WS-5.04	#01.01.03.0036 #03.01.02.0138	X	X		X	X	X	X							
WS-4.05	Monitor roadside parking impacts and relocate/restrict as alternative access is provided	Adaptively manage the highway around the Meeks Bay Resort and restrict/relocate roadside parking as the recreation area becomes better served by transit.	X			X	3	USFS	USFS/ CALTRANS		#01.01.03.0036 #03.01.02.0115 #03.01.02.0138	X	X		X	X	X	X	X	X					
WS-4.06	Off-season and winter parking lot access	Develop USFS operational measures to allow off-highway parking areas to remain open during the off-season and winter to provide for winter recreation access.	X				2	USFS	USFS	CW-1.02, CW-1.03, WS-1.18, WS-2.09, WS-3.04, WS-5.06		X	X	X	X	X	X	X	X	X	X				
WS-4.07	Incorporate wildlife crossing improvements in the segment, as appropriate	Evaluate locations for improved wildlife crossing features and separated crossing structures and implement as appropriate.		X	X		2	TRPA	USFS/ CALTRANS	CW-1.01	#01.01.03.0036		X		X				X	X					
WS-4.08	Caltrans bridge replacement	Design bridge replacement to accommodate wildlife crossings and pedestrian/bike crossing to minimize the need for pedestrians to cross the highway at grade.		X	X		2	CALTRANS	USFS/ CALTRANS	CW-1.01	#01.01.03.0036 #03.01.02.0138	X	X		X			X	X	X					
5-SUGAR PINE POINT SEGMENT																									
WS-5.01	Sugar Pine Point State Park summer park-n-ride/bike	Improve Sugar Pine Point State Park parking area to serve as a summer park-n-ride/bike for transit and biking and to allow for easy access and turnaround for TART transit vehicles.		X	X		2	USFS/TTD	USFS/EC/CSLT	CW-1.02, CW-1.03	#03.01.02.0123	X	X		X			X	X				X		
WS-5.02	Transit stop at Sugar Pine Point State Park	Transit stop at Sugar Pine Point State Park (evaluate potential for both northbound and southbound stops)		X	X		2	TTD	CDPR	CW-1.02, CW-1.03	#03.01.02.0115	X	X	X	X			X	X		X	X		X	
WS-5.03	Increase technology infrastructure and bandwidth in corridor segment	Increase technology infrastructure and bandwidth in corridor segment, including ability to use ITS	X	X	X		1 & 2	TTD	USFS/CDPR/ CALTRANS	CW-1.01	#03.01.02.0115	X	X	X	X			X	X						
WS-5.04	Formalize emergency turnouts	Formalize emergency turnouts (design as slow vehicle turnouts if possible)			X		2	USFS/ CALTRANS	USFS/ CALTRANS	CW-1.02, CW-1.03, WS-1.13, WS-1.18, WS-2.09, WS-2.16, WS-3.03, WS-3.04, WS-4.06	#01.01.03.0036	X	X	X	X	X	X	X	X						
WS-5.05	Monitor roadside parking impacts and relocate/restrict as alternative access is provided	Adaptively manage the highway around the Sugar Pine Point State Park and restrict/relocate roadside parking as the recreation area becomes better served by transit.	X			X	3	CDPR	CDPR/CALTRANS		#01.01.03.0036 #03.01.02.0115	X		X	X	X	X	X	X	X	X	X			
WS-5.06	Off-season and winter parking lot access	Develop USFS operational measures to allow off-highway parking areas to remain open during the off-season and winter to provide for winter recreation access.	X				2	USFS	USFS	CW-1.02, CW-1.03, WS-1.18, WS-2.09, WS-3.04, WS-4-06		X	X	X	X	X	X	X	X	X	X				
WS-5.07	Recreation Corridor Gateway Sign (just north of Sugar Pine Point State Park)	Recreation gateway signage to communicate to visitors that they have entered into a special area. Consider incorporating ITS as part of signage system.			X		1	CDPR	CDPR	CW-1.14, WS-1.19		X	X	X	X			X	X	X	X	X			
WS-5.08	Incorporate wildlife crossing improvements in the segment, as appropriate	Evaluate locations for improved wildlife crossing features and separated crossing structures and implement as appropriate.		X	X		2	TRPA	USFS/ CALTRANS	CW-1.01	#01.01.03.0036		X		X				X	X					
WS-5.09	Sugar Pine Point State Park pier	Improve Sugar Pine Point State Park pier and increase operational resources to facilitate water taxi service to the area	X	X	X		2	CDPR	CDPR	CW-1.06	#01.01.03.0036	X		X				X			X				

*Project Type:
Operations, Planning, Design/Engineering, Monitoring

TAHOE TRAIL CONCEPTUAL ALIGNMENTS

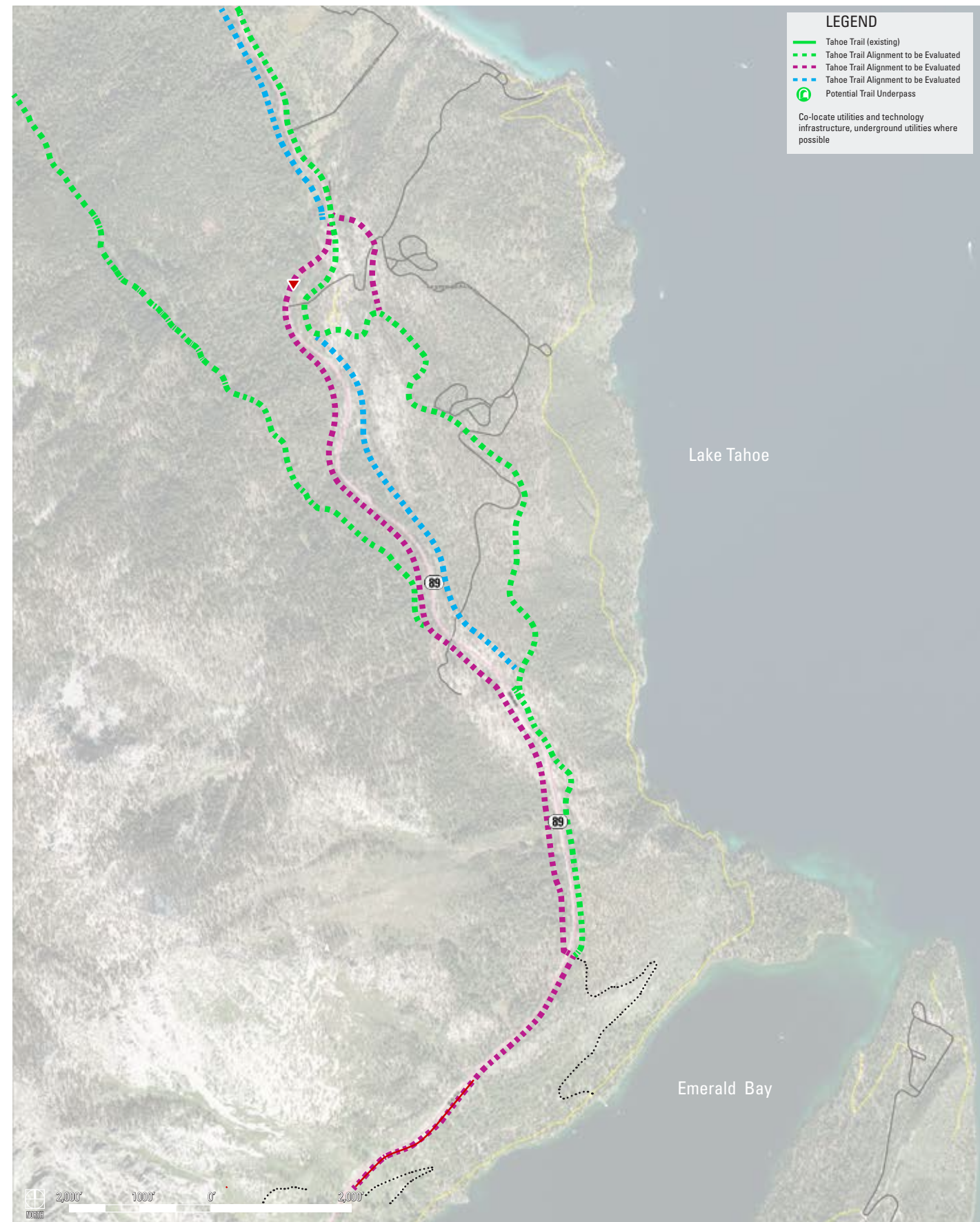
TAHOE TRAIL CONCEPTUAL ALIGNMENTS

TAHOE TRAIL CONCEPTUAL TRAIL ALIGNMENTS | SPRING CREEK ROAD TO D.L. BLISS



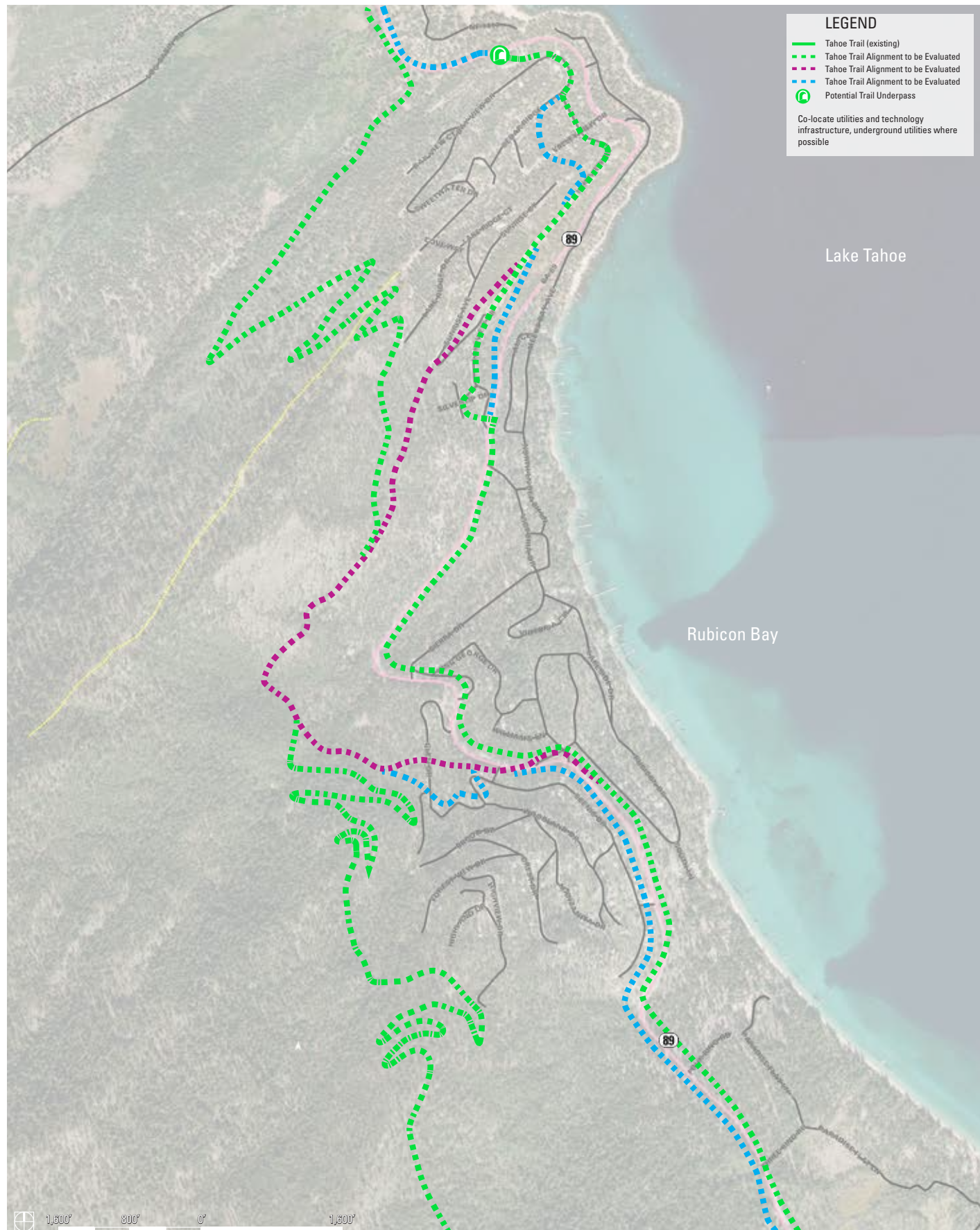
TAHOE TRAIL CONCEPTUAL ALIGNMENTS

TAHOE TRAIL CONCEPTUAL TRAIL ALIGNMENTS | D.L. BLISS



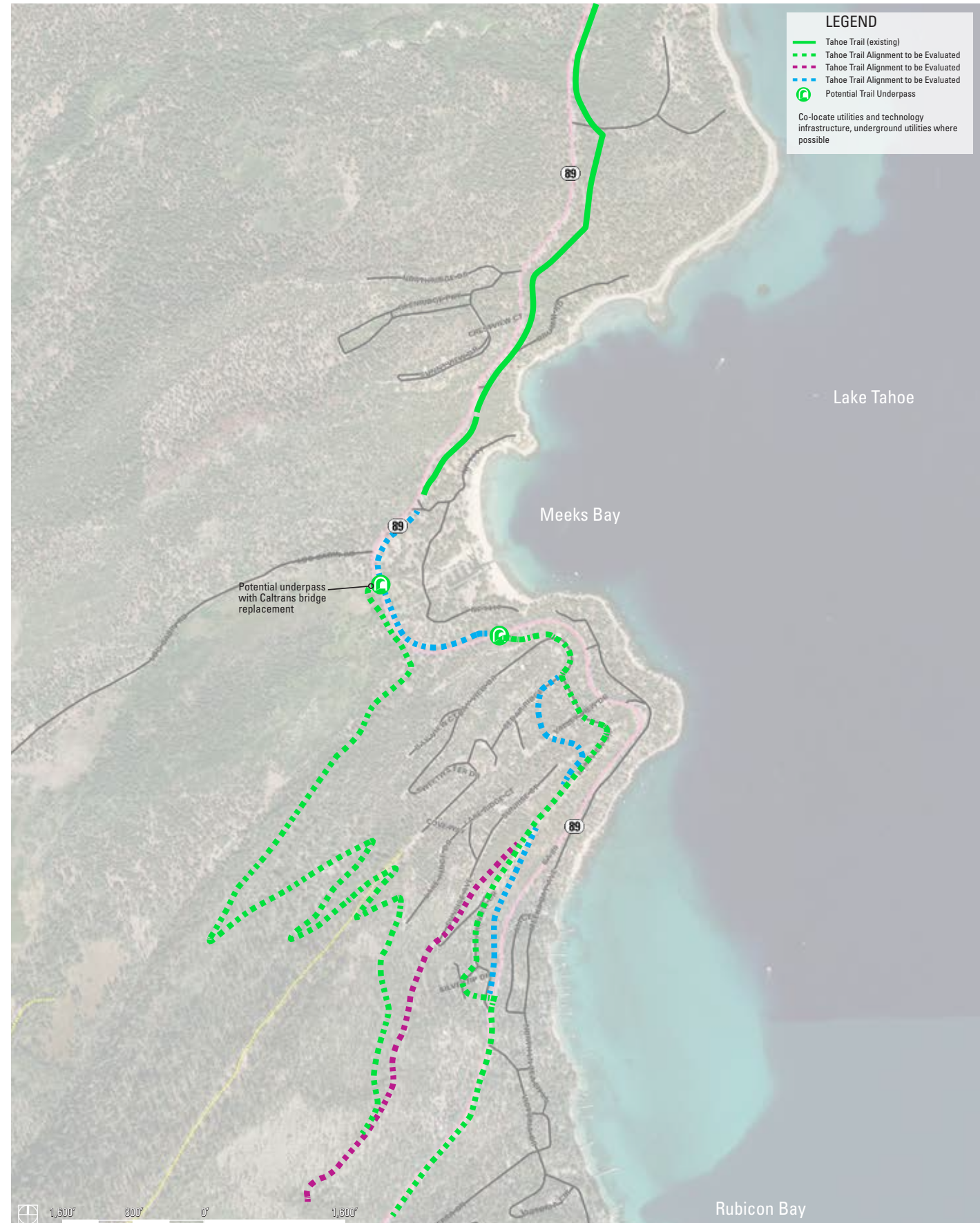
TAHOE TRAIL CONCEPTUAL ALIGNMENTS

TAHOE TRAIL CONCEPTUAL TRAIL ALIGNMENTS | RUBICON BAY



TAHOE TRAIL CONCEPTUAL ALIGNMENTS

TAHOE TRAIL CONCEPTUAL TRAIL ALIGNMENTS | MEEKS BAY



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INTER-LOCAL AGREEMENT EXAMPLE

INTER-LOCAL AGREEMENT EXAMPLE

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SR 28 Corridor
Operations and Maintenance
Interlocal Agreement

Tahoe Transportation District
and
Nevada Department of Transportation
and
Nevada Division of State Parks
and
Nevada Division of State Lands
and
Nevada Department of Public Safety-Highway Patrol
and
Washoe County Community Services Department
and
Incline Village General Improvement District
and
Carson City Parks & Recreation Department
and
Douglas County Parks & Recreation Department
and
Tahoe Regional Planning Agency

This Interlocal Agreement (this "Agreement") is dated and effective August 1, 2015, by and between the Tahoe Transportation District ("TTD"); the Nevada Department of Transportation ("NDOT"); the Nevada Division of State Parks ("NDSP"); the Nevada Division of State Lands ("NDSL"); the Nevada Department of Public Safety-Highway Patrol ("NHP"); Washoe County and its Community Services Department ("Washoe County"); the Incline Village General Improvement District ("IVGID"); Carson City and its Parks & Recreation Department ("Carson City"); the Douglas County and its Parks & Recreation Department ("Douglas County"); and the Tahoe Regional Planning Agency ("TRPA"). Collectively, these agencies and organizations will hereinafter be referred to as the "Parties."

WITNESSETH:

WHEREAS, the Parties are public agencies under Nevada Revised Statutes ("NRS") 277.100 and authorized to enter into cooperative agreement in accordance with NRS 277.080 to 277.110;

WHEREAS, NRS 277.180 authorizes any one or more public agencies to contract with any one or more other public agencies to perform any governmental service, activity or undertaking which any of the public agencies entering into the agreement is authorized by law to perform;

WHEREAS, the Parties recognize the need to combine the operations and maintenance approach for projects in the SR 28 corridor: the SR 28 Corridor Project, the NV Stateline to

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Stateline Bikeway Project, and other individual projects (as combined, the “Corridor Project”), in the area shown in Exhibit A;

WHEREAS, combining the operations and maintenance approach for these projects will allow the Parties to engage in more effective and efficient efforts across jurisdictional boundaries and achieve the safety, environmental and transportation goals of the projects;

WHEREAS, some of the Parties entered into a Interlocal Agreement on May 11, 2007, to create a working group to develop agreements regarding planning, design and construction and management, operation and maintenance responsibilities for the bikeway;

WHEREAS, some of the Parties entered into the Nevada State Route 28 Corridor Management Plan Project Charter in June 2012, in which they agreed to develop the SR 28 Corridor Management Plan;

WHEREAS, the Corridor Management Plan was developed to define the vision, goals and objectives for the corridor and to provide a coordinated management strategy to guide the Parties, and was approved by the TTD Board of Directors on October 11, 2013;

WHEREAS, some of the Parties entered into a Federal Lands Access Program (“FLAP”) Project Memorandum of Agreement in December 2014 to set forth responsibilities regarding development and construction of Phase 1 of the Corridor Project in order to obligate FLAP funding;

WHEREAS, TTD has been successful in securing approximately \$23.9 million federal, state and local funding for the Corridor Project;

WHEREAS, The Parties each have unique roles, jurisdictions, missions, and goals, but there needs to be a coordinated approach to the operations and maintenance of existing and future facilities within the SR 28 corridor;

WHEREAS, an operations and maintenance agreement is required in order to receive FLAP and other funding for construction;

WHEREAS, this Agreement describes the operations and maintenance responsibilities for the projects identified in Exhibit B, and will be amended in the future to set forth operations and maintenance responsibilities for future projects; and

WHEREAS, the Parties now desire to create a Corridor Management Team (the “CMT”) comprised of representatives from each of the Parties to develop specific operating procedures and maintenance plans related to the implementation of the Corridor Project.

NOW, THEREFORE, in consideration of the promises and mutual covenants herein contained, it is agreed as follows:

ARTICLE I – DUTIES AND RESPONSIBILITIES

1. The Parties will perform the operations and maintenance responsibilities described in Exhibit B for the projects described therein. Exhibit B shall be amended in the future to include operations and maintenance responsibilities for future projects.
2. The Parties will continue to provide planning information, meeting space and other support as needed (and within their respective budgets) for the Parties to attain their goal of a collaborative approach to planning, constructing, operating and maintaining facilities and services within the SR 28 corridor.
3. The CMT is hereby established to assist in implementing the Corridor Project. The Parties agree to provide one staff member to serve as a CMT representative, to attend bi-annual meetings, and to make recommendations to upper level staff and their governing boards regarding CMT activities.
4. At its first meeting, the CMT shall determine processes for reaching consensus and effective and efficient decision-making.
5. The CMT will work to:
 - a. Fulfill the operations and maintenance responsibilities set forth in this Agreement;
 - b. Amend this Agreement as necessary with regards to operations and maintenance responsibilities for future projects;
 - c. Assist in prioritizing the development and construction of projects;
 - d. Form partnerships to complete development and construction of projects,
 - e. Assist in submitting federal, state and local grant applications to fund projects ;
 - f. Assess continued challenges within the SR 28 corridor and look for opportunities to address those challenges; and
 - g. Provide recommendations to their governing bodies on how best to address those challenges;
 - h. Prioritize the need for capital infrastructure maintenance funding for projects;
 - i. Prepare a cumulative budget for capital maintenance funding in the SR 28 corridor and determine the appropriate Parties to submit grants and funding requests, including any requests to the Tahoe Fund; and
 - j. Identify and prioritize the need for grants and funding requests for future projects.
6. The CMT will provide recommendations to the TTD Board of Directors on any matter requiring action by the TTD Board of Directors in connection with the Corridor Management Plan.
7. TTD will continue to assist in developing and seeking funding sources for the implementation of the Corridor Project.
8. TRPA, in its role as the Tahoe Metropolitan Planning Organization, will continue to assist the Parties in providing long range multi-modal transportation planning information and survey and user monitoring information, including incorporating bikeway segments into monitoring protocol, as appropriate.
9. This approach does not preclude the Parties from individually performing their duties and responsibilities in the SR 28 corridor.

ARTICLE II - GENERAL PROVISIONS

1. This Agreement may only be terminated upon mutual written agreement of all of the Parties.
2. The Parties with operations and maintenance responsibilities described in Exhibit B may assign, transfer or delegate those responsibilities to other Parties upon written agreement of the Parties that will assume those responsibilities and written notice to all of the other Parties. Otherwise, none of the Parties shall assign, transfer or delegate any rights, obligations or duties under this Agreement without the prior written consent of all of the other Parties.
3. The Parties may agree to assume operations and maintenance responsibilities in addition to those described in Exhibit B upon written notice to all of the other Parties. Otherwise, this Agreement shall not be modified, extended or amended without the prior written consent of all of the Parties.
4. The Parties agree to work cooperatively to avoid and resolve conflicts at the lowest level possible. The Parties share the following principles in the resolution of conflicts:
 - The efficient delivery of an effective, cost efficient quality project or program is the primary goal of all partnering agencies.
 - The Parties will focus on their common goals rather than differences.
 - Win/Win solutions to conflicts will be sought.
 - Differences of opinion are acceptable but are sought to be limited.
 - Timely, open and honest communication is the key to avoiding and resolving conflicts.
5. Decisions are to be made and conflicts are to be resolved at the lowest possible level. If disagreements arise and cannot be resolved at the staff level, the Parties will follow the following process:
 - **TTD:** TTD staff elevates unresolved conflicts to the TTD District Manager.
 - **NDOT:** NDOT staff elevates unresolved conflicts to the NDOT District II District Engineer and then to the Director.
 - **NDSP:** NDSP Park Supervisor elevates unresolved conflicts to the NDSP Administrator.
 - **NDSL:** NDSL staff elevates unresolved conflicts to the NDSL Administrator.
 - **NHP:** NHP staff elevates unresolved conflicts to the NHP Chief.
 - **Washoe County:** Washoe County Community Services Department staff elevates unresolved conflicts to the Washoe Community Services Department Director and then to County Manager.
 - **IVGID:** IVGID Public Works staff elevates unresolved conflicts to the Public Works Department Director and then to IVGID General Manager.
 - **Carson City:** Carson City staff elevates unresolved conflicts to the Carson City Parks & Recreation Director and then to City Manager.
 - **Douglas County:** Douglas County staff elevates unresolved conflicts to the Douglas County Community Services Department Director and then to County Manager.
 - **TRPA:** TRPA staff elevates unresolved conflicts with recommendations to the Executive Director.

If a solution is reached, the Parties will work to implement the solution. If a solution is not reached, it may cause delay in implementing solution(s), vendor contract(s),

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program(s), construction contract(s) schedule(s) and/or jeopardize the timely use of available funding. All decisions and agreements regarding conflict resolution shall be documented fully and copies must be kept in the project files for all Parties.

6. All notices or other communications required or permitted to be given under this Agreement shall be in writing and shall be deemed to have been duly given if delivered personally in hand, by facsimile or email with simultaneous regular mailing by certified mail with return receipt requested and postage prepaid on the date posted, and addressed to the other party at the addresses set forth below:

TTD: Carl Hasty, District Manager
Tahoe Transportation District
cc: George Fink, Transit System Program Manager
P.O. Box 499
Zephyr Cove, NV 89448
128 Market Street, Suite 3-F
Stateline, NV 89449
Phone Number: (775) 589-5500
Fax: (775) 589-5283
E-mail: chasty@tahoetransportation.org;
gfink@tahoetransportation.org

NDOT: Rudy Malfabon, Director
Nevada Department of Transportation District 2
cc: Thor Dyson, District Engineer
310 Galletti Way
Sparks, NV 89431
Phone Number: (775) 834-8300
Fax: (775) 834-8390
E-mail: rmalfabon@dot.state.nv.us
tdyson@dot.state.nv.us

NDSP: Eric Johnson, Administrator
Nevada Division of State Parks
cc: Bob Mergell, Deputy Administrator
Jay Howard, Park Supervisor
901 S. Stewart Street Suite 5005
Carson City, NV 89701-5248
Phone Number: (775) 684-2770
Fax: (775) 684-2777
E-mail: emjohnson@parks.nv.gov
rmergell@parks.nv.gov
javattahoe@gmail.com

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NDSL: Charles Donohue, Administrator
Nevada Division of State Lands
cc: Elizabeth Harrison, Management Analyst
901 S. Stewart Street Suite 5003
Carson City, NV 89701-5246
Phone Number: (775)684-2720
Fax: (775)684-2721
E-mail: cdonohue@lands.nv.gov
eharrison@lands.nv.gov

NHP: Colonel Dennis S. Osborn, Chief
Nevada Highway Patrol
cc: Chris Greb, Sargent (Tahoe)
Rob Stepien, Deputy Commander Personnel
625 Mt. Rose Hwy
Incline Village, NV 89451-9111
Phone Number: (775) 831-2404
Fax: (775) 831-1709
E-mail: dosborn@dps.state.nv.us
cgreb@dps.state.nv.us
rstepien@dps.state.nv.us

Washoe County: John Slaughter, County Manager
Washoe County Community Services Department
cc: Dave Solaro, Director
Cheryl Surface, Parks Planner/Tahoe Team Coordinator
Adam Searcy, Roads Division Manager
PO Box 113000
Reno, NV 89520
Phone Number (775) 328-2019
E-mail: jslaughter@washoecounty.us
dsolaro@washoecounty.us
csurface@washoecounty.us
asearcy@washoecounty.us

IVGID: Steven Pinkerton, General Manger
IVGID - Public Works Department
cc: Joe Pomroy, Public Works Director
Brad Johnson, Engineer
1220 Sweetwater Road
Incline Village, NV 89451
Phone Number (775) 832-1269
Fax: (775) 832-1260
E-mail: steven_pinkerton@ivgid.org
joe_pomroy@ivgid.org
brad_johnson@ivgid.org

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Carson City: Nick Marano, City Manager
Carson City Parks & Recreation Department
cc: Roger Moellendorf, Director
Ann Bollinger, Open Space Administrator
3303 Butti Way Building #9
Carson City, NV 89701
Phone Number (775) 887-2262
Fax: (775) 887-2145
E-mail: nmarano@carson.org
rmoellendorf@carson.org
abollinger@carson.org

Douglas County: Jim Nichols, County Manager
Douglas County Community Services Department
cc: Scott Morgan, Director
1325 Waterloo Lane
Gardnerville, NV 89410
Phone Number: (775)782-9828
Fax: (775)782-5799
E-mail: lwerner@co.douglas.nv.us; smorgan@co.douglas.nv.us

TRPA: Joanne S. Marchetta, Executive Director
Tahoe Regional Planning Agency
cc: Nick Haven, Transportation Planning Manager
Brian Judge, Principal Environmental Specialist
P.O. Box 5310
Stateline, NV 89449
128 Market Street
Stateline, NV 89449
Phone Number: (775)588-4547
Fax: (775)588-4527
E-mail: jmarchetta@trpa.org
nhaven@trpa.org; bjudge@trpa.org

7. This instrument in no way restricts the Parties from participating in similar activities with other public or private agencies, organizations, and individuals.
8. The Parties their respective agencies, organizations and offices will handle their own activities and utilize their own resources, including the expenditure of their own funds, in pursuing these objectives unless otherwise agreed. Each party will carry out its separate activities in a coordinated and mutually beneficial manner.
9. This Agreement is not intended to, and does not create, any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity, by a party against the United States, the Parties, their agencies, officers, or any other persons.
10. Each party agrees to keep and maintain under generally accepted accounting principles full, true and complete records and documents (written, electronic, computer related or

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otherwise) pertaining to this Agreement and present, at any reasonable time, such information for inspection, examination, review, audit and copying at any office where such records and documentation are maintained.

11. The Parties are associated with each other only for the purposes and to the extent set forth in this Agreement. Each party is and shall be a public agency separate and distinct from the other party and shall have the right to supervise, manage, operate, control and direct performance of the details incident to its duties under this Agreement. Nothing contained in this Agreement shall be deemed or construed to create a partnership or joint venture, to create relationships of an employer-employee or principal-agent, or to otherwise create any liability for one agency whatsoever with respect to the indebtedness, liabilities, and obligations of the other agency or any other party.
12. Pursuant to NRS Chapter 239, information or documents may be open to public inspection and copying. The Parties will have the duty to disclose unless a particular record is confidential by law or a common law balancing of interests. Each party shall keep confidential all information, in whatever form, produced, prepared, observed, or received by that party to the extent that such information is confidential by law or otherwise required by this Agreement.
13. This Agreement and the rights and obligations of the Parties shall be governed by, and construed according to, the laws of the State of Nevada. The Parties consent to the exclusive jurisdiction of the First Judicial District Court, Carson City, Nevada, for the enforcement of this agreement.
14. This Agreement constitutes the entire agreement of the Parties and is intended as a complete and exclusive statement of the promises, representations, negotiations, discussions, and other agreements that may have been made in connection with the subject matter hereof. Unless an integrated attachment to this Agreement specifically displays a mutual intent to amend a particular part of this Agreement, general conflicts in language between any such attachment and this Agreement shall be construed consistent with the terms of this Agreement. Unless otherwise expressly authorized by the terms of this Agreement, no modification or amendment to this Agreement shall be binding upon the Parties unless the same is in writing and signed by the respective Parties hereto.
15. The Parties do not intend by any of the provisions of this Agreement to create in the public or any member thereof a third party beneficiary status hereunder, or to authorize anyone not a party to this Agreement to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of this Agreement.
16. The illegality or invalidity of any provision or portion of this Agreement shall not affect the validity of the remainder of the Agreement and this Agreement shall be construed as if such provision did not exist. The unenforceability of such provision or provisions shall not be held to render any other provision or provisions of this Agreement unenforceable.

INTER-LOCAL AGREEMENT EXAMPLE

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IN WITNESS WHEREOF, the Parties have executed this Agreement in counterparts on the dates written below.

Tahoe Transportation District

DocuSigned by:

Carl Hastey

Carl Hastey, District Manager

Nevada Department of Transportation

DocuSigned by:

Rudy Mahabon

Rudy Mahabon, Director

Nevada Division of State Parks

DocuSigned by:

Eric Johnson

Eric M. Johnson, Administrator

Nevada Division of State Lands

DocuSigned by:

Charles Donohue

Charles Donohue, Administrator

Nevada Department of Public Safety-Highway Patrol

DocuSigned by:

Dennis Osborn

Dennis Osborn, Chief

Washoe County

DocuSigned by:

Marsha Birkbigler

Marsha Birkbigler, Chair
Board of County Commissioners

ATTEST: _____
County Clerk

INTER-LOCAL AGREEMENT EXAMPLE

IN WITNESS WHEREOF, the Parties have executed this Agreement in counterparts on the dates written below.

Tahoe Transportation District

Carl Hasty, District Manager

Nevada Department of Transportation

Rudy Malfabon, Director

Nevada Division of State Parks

Eric M. Johnson, Administrator


Nevada Division of State Lands

Charles Donohue, Administrator

Nevada Department of Public Safety-Highway Patrol

Dennis Osborn, Chief

Washoe County


Marsha Berkgigler, Chair
Board of County Commissioners

ATTEST:


County Clerk



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Incline Village General Improvement District
Reviewed as to Form:

By _____
Steven J. Pinkerton, General Manager

By _____
Devon T. Reese, General Counsel

Agreed to:

By _____
Jim Smith, Chairman
Board of Trustees

By _____
Secretary

Carson City

ATTEST: _____
Clerk-recorder

Robert L. Crowell, Mayor
Of Carson City

Douglas County

ATTEST: Kathy Lewis
County Clerk

Doug N. Johnson
Doug N. Johnson, Chairman
Board of County Commissioners

Tahoe Regional Planning Agency

Joanne S. Marchetta
Joanne S. Marchetta, Executive Director

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Exhibit A

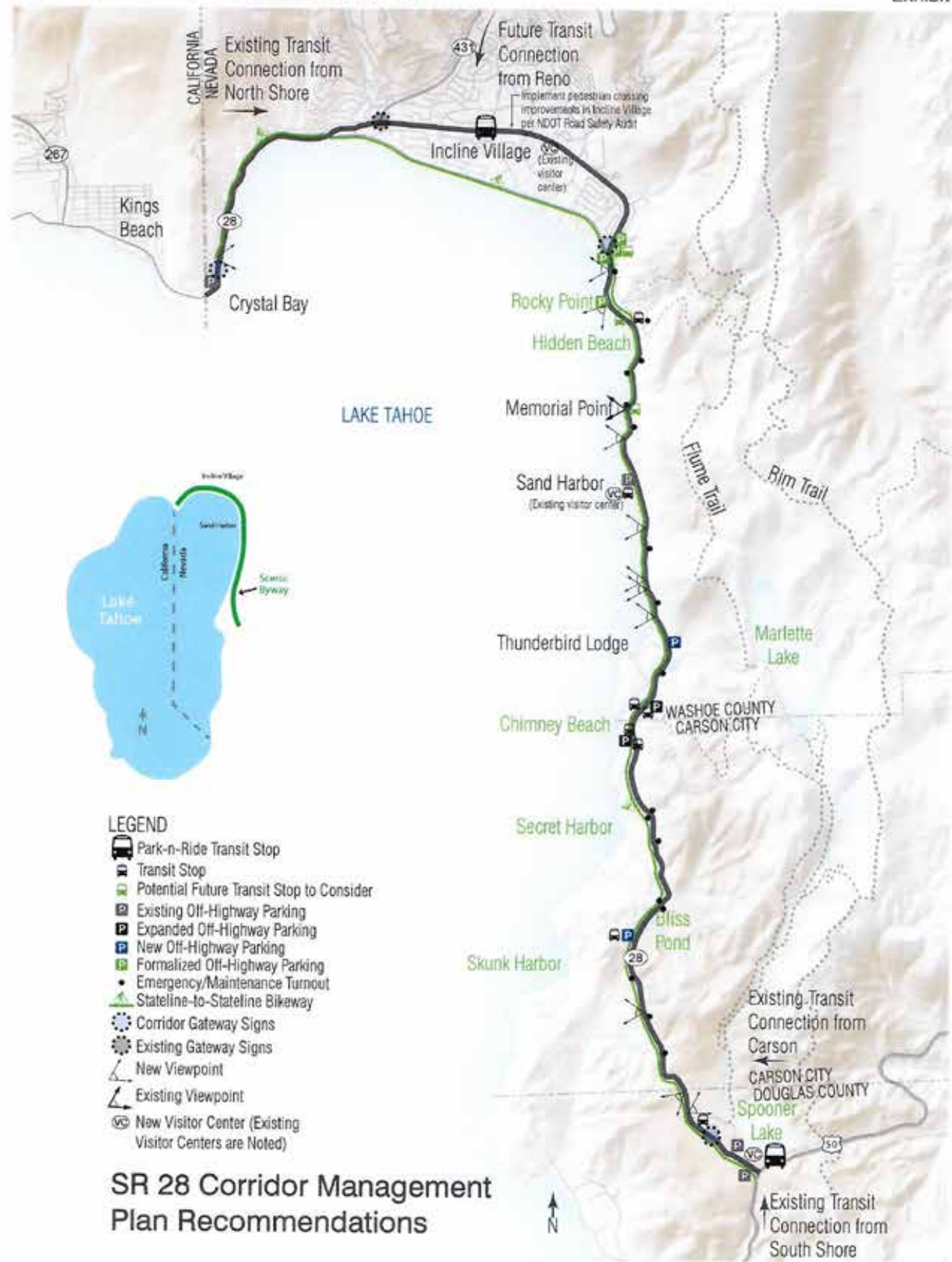


Exhibit B

Operations and Maintenance Responsibilities

I. Incline Village to Sand Harbor

A. Tahoe Transportation District

1. TTD will continue applying for federal, state and local funding for transit services within the SR 28 corridor. Currently, 60% of the total cost of the service comes from federal funding with a required match of 40% of the total cost of the service coming from state or local sources. Transit service is critical to meet the peak-season ridership demand in the SR 28 corridor from approximately June 15 until Labor Day.
2. TTD will operate and maintain the busses, bus shelters or benches and bus information signs for the transit service as long as federal, state and local funding is available.
3. TTD will continue seeking annual agreement with Washoe County School District for intercept lots in Incline Village and will assist in the planning efforts to provide permanent intercept lots in Incline Village and near the intersection of SR 28 and US Highway 50.
4. TTD will be responsible for the management of the grants, fee collection and fiscal compliance for the transit service.
5. TTD will provide any routine survey information on transit services or visitor experience to the Parties.

B. Nevada Department of Transportation

1. NDOT will operate and maintain all improvements within the SR 28 right-of-way and other property owned by NDOT, with the exception of the expanded parking near Ponderosa Ranch Road and the bikeway.

C. Washoe County

1. Washoe County will sweep the expanded parking near Ponderosa Ranch Road once at the beginning of each summer season.
2. Washoe County will sweep the bikeway twice each summer season (once at the beginning of the season and again during peak summer season) from Sweetwater Drive to Sand Harbor.
3. Washoe County will pump the water quality vaults located at the expanded parking near Ponderosa Ranch Road.
4. Washoe County will maintain the parking lot signs at the expanded parking near Ponderosa Ranch Road.

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5. Washoe County will provide dog waste bags for NDSP to stock at the expanded parking near Ponderosa Ranch Road.
6. Washoe County will operate and maintain 1-2 dumpsters at the expanded parking near Ponderosa Ranch Road from May 1st to Oct 15th of each year. The 2nd dumpster may only be needed during peak season July 1st - Labor Day. The dumpster(s) will be bear proof.
7. Washoe County will operate and maintain 1-2 ADA portable toilets at the expanded parking near Ponderosa Ranch Road from May 1st to Oct. 15th of each year. The 2nd portable toilet may only be necessary during peak season July 1st - Labor Day.
8. With the exception of the duties expressly assumed by NDSP, Washoe County will manage all routine maintenance of the expanded parking near Ponderosa Ranch Road and the bikeway from Sweetwater Drive to the southern boundary of Rocky Point Subdivision, i.e. the last subdivision in Incline Village prior to entering Lake Tahoe Nevada State Park. Funding for routine maintenance will be provided through programs such as parking meter revenues.
9. Washoe County will manage capital infrastructure maintenance for the expanded parking near Ponderosa Ranch Road and the bikeway from Sweetwater Drive to the southern boundary of Rocky Point Subdivision, i.e. the last subdivision in Incline Village prior to entering Lake Tahoe Nevada State Park. Funding for capital infrastructure maintenance will be provided through programs such as the Tahoe Fund endowment and parking meter revenues.

D. Nevada Division of State Parks

1. NDSP will allow transit access to Sand Harbor. Transit access is currently allowed through the south entrance gate. NDSP is responsible for operation and maintenance of the entrance gate.
2. NDSP will operate and maintain the parking area near Rocky Point and Hidden Beach.
3. NDSP will provide litter patrol at the expanded parking near Ponderosa Ranch Road and along the bikeway from Sweetwater Drive to Sand Harbor.
4. NDSP will stock dog waste bags provided by Washoe County at the expanded parking near Ponderosa Ranch Road.
5. If NDSP requests that a sign be installed on the bikeway at the expanded parking near Ponderosa Ranch Road to indicate whether or not Sand Harbor beaches are full, then NDSP will operate the sign in the same way that it currently operates its sign on the highway for motorist parking.
6. With the exception of the duties expressly assumed by Washoe County, NDSP will manage all routine maintenance of the parking lots and bikeway within Lake Tahoe Nevada State Park. Funding for routine maintenance will be provided through programs such as parking meter revenues.

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7. NDSP will manage capital infrastructure maintenance for the parking lots and bikeway within Lake Tahoe Nevada State Park. Funding for capital infrastructure maintenance will be provided through programs such as the Tahoe Fund endowment and parking meter revenues.

E. Nevada Highway Patrol

1. NHP will continue to assist in enforcement of the “No Parking Zones” and illegal shoulder parking along SR 28, within its Lake Tahoe operating procedures, and provide feedback to the CMT on the effectiveness of implemented Corridor Project solutions such as expanded “No Parking Zones.”

II. Sand Harbor to Secret Harbor

[To be determined]

III. Secret Harbor to US 50 Spooner Lake

[To be determined]

IV. Crystal Bay to Incline Village

[To be determined]

SR 89 ESTIMATED PARK-N-RIDE PARKING SPACE NEEDS

SR 89 ESTIMATED PARK-N-RIDE PARKING SPACE NEEDS

SR 89 Estimated Park-n-Ride Parking Needs

9/21/2020

Note: The estimated number of parking spaces shown below shows the peak average number of spaces displaced through the restriction of roadside parking and other improvements. It does not account for potential decreases in turnover from a shift to a shuttle system. It does not account for users who may access transit via the mainline transit system, from private shuttles, or from water transit, and therefore not require parking at the park-n-ride. The numbers are to be used for reference only to understand a high level need for parking at the park-n-rides.

POPE TO BALDWIN SEGMENT		
Location	Number of Vehicles	Source
Jameson Beach Road and south 4,100FT	270	Camp Richardson Queue Investigation, July 21 & 22, 2017, Eric Royer
Jameson Beach Road to Valhalla Road	60	PE, Caltrans District 3 Traffic Operations
Total Number of Displaced Vehicles	330	

Parking Expansions Within Corridor		
Pope to Baldwin Segment		Estimated Number of Spaces Provided
Parking Lots in Tallac Historic Site Planning Area	110	110 Historic Facilities BMP Retrofit Project (2014)
		Estimated Number of Spaces Needed
Total displaced roadside parking spaces after in-corridor parking expansion/formalization projects are completed	220	(Total # of displaced vehicles minus estimated number of in-corridor parking expansions)

Travel Patterns at Pope to Baldwin Segment		
Coming from the South and Returning to the South	75%	LSC 2018 Postcard Survey
Coming from the North and Returning to the North	25%	LSC 2018 Postcard Survey

Estimated Park-n-Ride Needs for Displaced Vehicles	Estimated Number of Spaces Needed	
Y/West Way Park-n-Ride	165	165 (# of vehicles X 75%)
Sugar Pine Point State Park Park-n-Ride	55	55 (# of vehicles X 25%)

EMERALD BAY SEGMENT		
Location	Number of Vehicles	Source
Inspiration Point to Past the Viaduct	375	LSC 2018 Emerald Bay Parking Counts
Eagle Falls Roadside Area Conversion to Transit Pull-off with Parking	18	Site testing to incorporate transit pull-off
Total Number of Displaced Vehicles	393	

Parking Expansions Within Corridor		
Emerald Bay Segment		Range of Estimated Number of Spaces Provided
Vikingsholm Parking Enhancements	10	15 Conceptual parking plans
Bayview Campground Conversion	40	70 Conceptual parking plans
Total Number Spaces from In-Corridor Parking Expansions	50	85
		Range of Estimated Number of Spaces Needed
Total displaced roadside parking spaces after in-corridor parking expansion/formalization projects are completed	343	(Total # of displaced vehicles minus estimated number of in-corridor parking expansions)

Travel Patterns at Emerald Bay		
Coming from the South and Returning to the South	65%	LSC 2018 Postcard Survey
Coming from the North and Returning to the North	35%	LSC 2018 Postcard Survey

Estimated Park-n-Ride Needs for Displaced Vehicles	Range of Estimated Number of Spaces Needed	
Y/West Way Park-n-Ride	223	200 (# of vehicles X 65%)
Sugar Pine Point State Park Park-n-Ride	120	108 (# of vehicles X 35%)

TOTAL		
Estimated Park-n-Ride Needs for Displaced Vehicles	Range of Estimated Number of Spaces Needed	
Y/West Way Park-n-Ride	388	365 (# of vehicles X 65%)
Sugar Pine Point State Park Park-n-Ride	175	163 (# of vehicles X 35%)
Existing Parking at Sugar Pine Point State Park	126 spaces	
Estimated number of additional spaces needed for the park-n-ride at Sugar Pine Point State Park	49	37 (# of spaces needed minus number of existing spaces)

EXISTING CONDITIONS SUMMARY REPORT



TAHOE
REGIONAL
PLANNING
AGENCY



Tahoe Transportation
DISTRICT



SR-89 Corridor Management Plan

Existing Conditions Summary Report
May 2019



Prepared By:

Design Workshop, Inc.

LSC Transportation Consultants

Karen Mullen-Ehly

Nelson\Nygaard

ORCA Consulting

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A young boy with short brown hair, wearing a light-colored camouflage-patterned long-sleeved shirt and blue jeans, stands on a rocky ledge. He is holding a black smartphone up to take a photo of a large, calm lake. In the background, a city skyline is visible across the water, and several other people are scattered along the rocky path and overlook. The sky is clear and blue.

INTRODUCTION

INTRODUCTION

This document is a summary of the primary data sets collected and analyzed for the State Route 89 (SR 89) Corridor Management Plan (SR 89 CMP) in the Lake Tahoe Region. It pulls together relevant findings from site specific and regional studies over the past 10 years into one central document. Key issues impacting the corridor's transportation systems and visitor experience are described. Hot spots of activity are identified.

The data summary indicates what potential strategies and alternatives should be considered and it sets a baseline for monitoring the effectiveness of future implementation strategies. More detailed analyses can continue to use the data sets for future decision-making.

Corridor Planning

Corridor planning is an organizing framework to support regional transportation policy and align and accelerate project implementation. The approach requires multi-agency collaboration, commitments, and resources to address shared issues. Corridor planning brings together land managers and stakeholders to work across jurisdictional boundaries to identify projects and work together from project initiation through implementation.

The process aligns projects to maximize funding and considers opportunities and challenges from multiple stakeholder views. As such, the SR 89 Recreation Corridor Management Plan is an umbrella document for other plans and projects within the corridor. It creates a central vision and is a mechanism through which land managers can work together to achieve common goals.

Relationship to Linking Tahoe: Corridor Connection Plan

The Tahoe Transportation District (TTD) developed the 2017 Linking Tahoe: Corridor Connection Plan (LTCCP or Corridor Connection Plan), which collected and synthesized large amounts of data for all internal and external corridors for the Lake Tahoe Region. The SR 89 CMP uses the LTCCP as a baseline for data and high-level recommendations. The LTCCP set the stage for the more detailed data collections summarized in this document. The LTCCP also provides a foundation for the corridor's proposed recommendations. Within this existing conditions summary, data points from the LTCCP are provided alongside and in comparison to other data sets. The LTCCP describes the vision for the different corridors in Lake Tahoe. The SR 89 CMP will describe more specific action items to achieve the vision.



Figure 1: Corridors Identified in the 2017 Linking Tahoe: Corridor Connection Plan

KEY TAKEAWAYS FROM THE 2017 LINKING TAHOE: CORRIDOR CONNECTION PLAN

Key takeaways related to the SR 89 corridor from the Corridor Connection Plan include the following:

- With 1.6 million annual vehicle trips or 4.9 million person trips made to the Inspiration Point/Emerald Bay area in 2014, it is the most popular attraction in the corridor and possibly the Lake Tahoe Basin.
- Congestion and parking issues through Camp Richardson and Emerald Bay are the biggest transportation issues.
- The highway runs through the middle of two major recreation areas at Camp Richardson and Emerald Bay with high volumes of vehicles, bicycles, and pedestrians creating congestion and safety issues.
- Narrow roadways and minimal shoulders are not conducive for bike and pedestrian use
- There are no bike and pedestrian facilities north of Camp Richardson and USFS beaches.
- There is limited parking at Emerald Bay/Eagle Falls, scenic overlooks, and other trailhead locations.
- There is limited transit service and infrastructure.

THE CHALLENGE

The LTCCP states that the “single biggest transportation issue associated with the SR 89 Recreation Corridor is addressing the congestion and parking issues through Camp Richardson and Emerald Bay.”

Visitor demand during peak season (Memorial Day through Labor Day) exceeds infrastructure and staffing/operational capacity for significant recreation destinations. The lack of infrastructure, operational, and enforcement strategies to address the high visitation levels results in negative impacts to visitor experience, environment, lake clarity, safety, and congestion.

The corridor is one of the most visited and most popular within the Tahoe Region. The Corridor Connection Plan reported that the corridor saw almost 1.8 million annual visitors during 2014. RRC Associates’ Summer 2014 Visitor Research Summary for the North Lake Tahoe Resort Association showed 47 percent of respondents indicated spending time in Emerald Bay during their trip.

During the summer, vehicular queues begin forming between 8:00 AM and 10:00 AM at beach entries, trailheads, and off-highway vista points. The back-ups stretch into the highway and creates congestion and travel delays. Emergency responders and transit operators are often significantly impacted by the congestion.

Not enough designated off-highway parking spaces exist to meet the demand of visitors arriving by vehicle to Emerald Bay and Camp Richardson recreation areas. As a result, motorists search for places to park along narrow shoulders. The trolling for spaces increases congestion, leads to traffic incidents, increases erosion, and impacts water quality projects. Additionally, visitors must walk along the shoulder or within the roadway to reach their destination.

In the winter, SR 89 through Emerald Bay closes during and after winter storms due to avalanches and narrow shoulders. This impacts emergency responders and commuters who must travel around the East Shore to reach places of employment and meetings.

When the highway is open during the winter, it is a desirable location for backcountry ski access and for taking in the view. Because of operational requirements, most Forest Service parking lots generally close mid-October through mid-May. People must park along the roadway to access winter recreation sites. Therefore, during the shoulder season and winters with little to no snowfall, vehicles park on the shoulder because the USFS parking lots are closed even though they are empty.

THE VISION

Provide a safe and seamless travel experience that inspires every visitor and resident to walk, bike, or use transit to access the corridor’s diverse recreation offerings to better manage congestion, enhance environmental resiliency, and allow people to focus on enjoying the special nature of Lake Tahoe’s southwest shoreline.

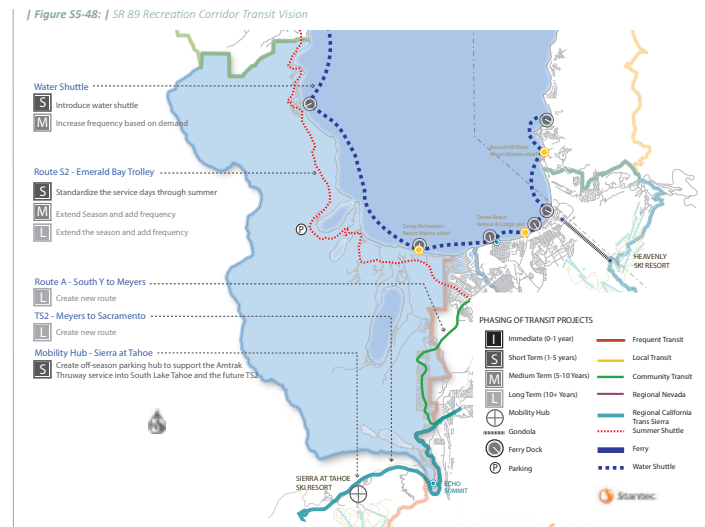


Figure 2: Transit Vision Diagrammed for the SR 89 Corridor in the Corridor Connection Plan

The LTCCP describes the vision for the SR 89 corridor’s future. Transit and active transportation facilities are at the heart of how people are envisioned to access recreation areas. Convenient, frequent transit services with an interconnected system of walking and biking paths connect people to the places they want to visit. Technology is used both as part of parking management systems and for visitor information.

This vision continues forward through the SR 89 Corridor Management Plan. The intent of this data summary is to consolidate key data sets into one place where they can be referenced and used to make the vision a reality.

DATA SOURCES

Related Documents

Previously, planning efforts focused primarily on developing strategies and projects within individual jurisdictions. The corridor planning process looks across those land management boundaries to coordinate strategies and projects and address the shared issues facing the corridor.

The planning team reviewed over 30 previous planning documents, projects, and studies related to the corridor. Recommendations were captured and common goals and objectives were identified. Some of the

- 1969 Sugar Pine Point State Park General Development Plan
- 2005 Draft TRPA Regional Recreation Plan
- 2007 USFS Recreation Facility Improvements List
- 2008 Caltrans Water Quality Project Eagle Falls Viaduct to Meeks Creek
- 2009 Camp Richardson Resort Vision Plan
- 2010 Replacement of Taylor Creek Education Center
- 2011 LTBMU South Shore Corridor: An Approach to Sustainable Recreation
- 2011 City of South Lake Tahoe General Plan
- 2011 Meeks Bay BMP Retrofit
- 2012 Caltrans SR 89 Transportation Corridor Concept Report
- 2012 Meeks to Sugar Pine Class 1 Bike Path Study
- 2012 North-South Transit Connection Alternatives Analysis
- 2012 TRPA Regional Plan Update
- 2013 Camp Richardson Resort Campground and Vehicle Circulation BMP Retrofit
- 2013 USFS Fallen Leaf Lake Trail Access and Travel Management Plan
- 2014 Tallac Historic Facilities BMP Retrofit
- 2015 & 2018 Tahoe Prosperity Center Measuring for Prosperity: Community and Economic Indicators for the Lake Tahoe Basin
- 2015 Meeks Bay Resort Conceptual Design
- 2015 North Lake Tahoe Tourism Master Plan
- 2015 Tahoe Valley Area Plan
- 2015 USFS Integrated Management and Use of Roads, Trails and Facilities
- 2016 Linking Tahoe: Active Transportation Plan
- 2016 Regional Transportation Improvement Plan
- 2016 TART Short Range Transit Plan
- 2016 USFS Land Management Plan
- 2017 Linking Tahoe: Corridor Connection Plan
- 2017 Linking Tahoe: Regional Transportation Plan
- 2017 Long Range Transit Master Plan
- 2017 TTD Short Range Transit Plan
- 2017 USFS Integrated Management and Use of Roads, Trails and Facilities
- Over 40 Corridor Environmental Improvement Projects
- Final Alternatives Memo for Meeks Bay Resort to Sugar Pine Point SP Class 1 Bike Path
- Plan Area Statements
- Tahoe-Truckee Plug-In Electric Vehicle Readiness Program



Meeks Bay Resort includes a stretch of sandy beach that provides public access to the shores of Lake Tahoe.

Data Sets Referenced

The data sets listed below represent existing data sources and studies referenced as part of the corridor plan process. Not every data set is referenced in the existing conditions summary. Rather, those data points which are central to developing recommendations and strategies are summarized.

- 2010 TRPA Summer Travel Intercept Surveys
- 2012 UC Davis Draft Final Report: Influence of Boat Traffic and Other Physical Factors on the Test Benthic Barrier for Control of Asian Clam in Emerald Bay, Lake Tahoe
- 2013-2017 California Highway Patrol Statewide Integrated Traffic Records System
- 2014 (Summer) North Lake Tahoe Resort Association Visitor Research Summary
- 2014 TRPA Summer Travel Intercept Surveys
- 2015/2016 Lake Tahoe Visitors Authority Four Season Visitor Profile Study
- 2015 TTD Trolley Annual Ridership
- 2018 TRPA Summer Travel Intercept Surveys
- 2016 Tahoe Rim Trail: Trail Counter Data Report
- 2016-2017 Visitation Numbers from State Parks, USFS, and Concessionaires
- 2017 Caltrans Summer Traffic Count Data
- 2017 Caltrans Camp Richardson Queue Investigation
- 2017 Inrix Congestion Scan Data
- 2017 LSC Emerald Bay Parking Counts
- 2017 Linking Tahoe: Corridor Connection Plan Data Summaries, Including AirSage Cellular Data
- 2017 North Lake Tahoe Resort Association 2006-2016 Detailed Visitor Impact Estimates for The Economic Significance of Travel to the North Lake Tahoe Area
- 2017 TRPA Bicycle and Pedestrian Counters on the Pope-Baldwin Bicycle Path and the West Shore Trail

Studies and Data Collected Specifically for the SR 89 Corridor Management Plan

- 2018 Camp Richardson, Emerald Bay, and Meeks Bay Parking Counts
- 2018 Emergency Response Times Tracking Logs
- 2018 SR 89 Corridor Online Survey
- 2018 SR 89 Corridor Travel Time Survey Analysis
- 2018 SR 89 Visitor Windshield Postcard Survey
- 2018 SR 89/Jameson Beach Road Intersection Pedestrian Movement Survey
- 2018 Visitor Entries to Pope Beach, Baldwin Beach, Vikingsholm, and D.L. Bliss Tracking Logs
- 2018 SR 89 Visitor Intercept Survey
- Strava Recreational Activity Data



The Pope-Baldwin Bicycle Trail is a popular and highly used trail in the corridor.

A scenic landscape photograph showing a large, calm lake in the middle ground, bordered by a dense forest of evergreen trees. In the background, a range of mountains with patches of snow is visible under a clear blue sky with a few wispy clouds. The foreground is filled with more trees and some rocky ground. A white rectangular box with a thin green border is positioned in the upper right quadrant, containing the text 'CORRIDOR OVERVIEW'.

CORRIDOR OVERVIEW

SR 89 CORRIDOR OVERVIEW

State Route Highway 89 (SR 89) is a two-lane mountain roadway running from Meyers, California north along the West Shore of Lake Tahoe to North Lake Tahoe and beyond. It is the only access route to many of Lake Tahoe's popular recreation areas and serves almost 1.8 million visitors annually. The SR 89 corridor includes 17.5 miles of highway and adjacent recreation uses from West Way in El Dorado County north to the El Dorado/Placer County line at Sugar Pine Point State Park.

Defining Physical and Natural Resource Elements

Eighty-eight percent of the SR 89 corridor has a land use designation of conservation or open space. The public lands are primarily owned or managed by the United States Forest Service Lake Tahoe Basin Management Unit (USFS-LTBMU or LTBMU) and California State Parks (CSP or State Parks). Due to the high percentage of public lands, only 2,784 residential units are located in the corridor. Of these units, 93.5 percent are single family and 83 percent of the total units are vacant. Eighty-three percent of the vacant units are for seasonal/recreational use. Compared to other corridors in the Tahoe Region, the SR 89 corridor has the highest percentage of seasonal ownership and the lowest land use density (13 persons per square mile).

Gently sloping lands are located in the southern and northern areas of the corridor. The terrain begins to slope steeply around Cascade Lake and through Emerald Bay and D.L. Bliss. The steep escarpments of Emerald Bay are the result of glaciers carving out the bay. Avalanche chutes and landslide remnants speak to the steepness of the terrain. The upland areas west of Rubicon Bay also begin to quickly steepen through the residential neighborhoods and LTBMU lands.

Ospreys and Bald Eagle nests occur throughout portions of the corridor. Significant clusters of Osprey nests are found in Emerald Bay.

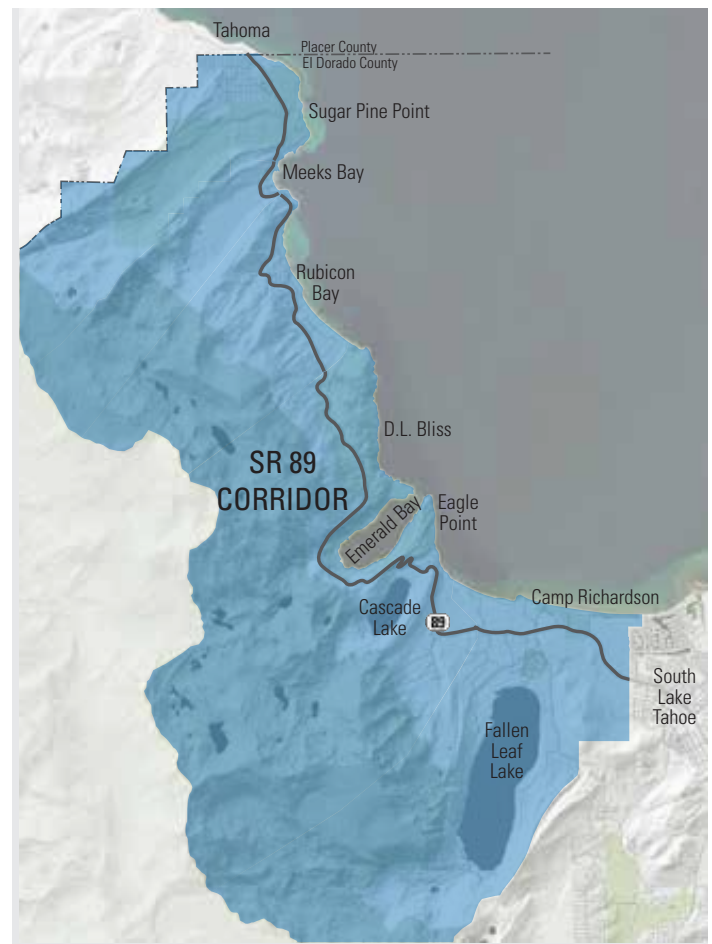


Figure 3: SR 89 Corridor



Figure 4: Ownership | SR 89 Corridor

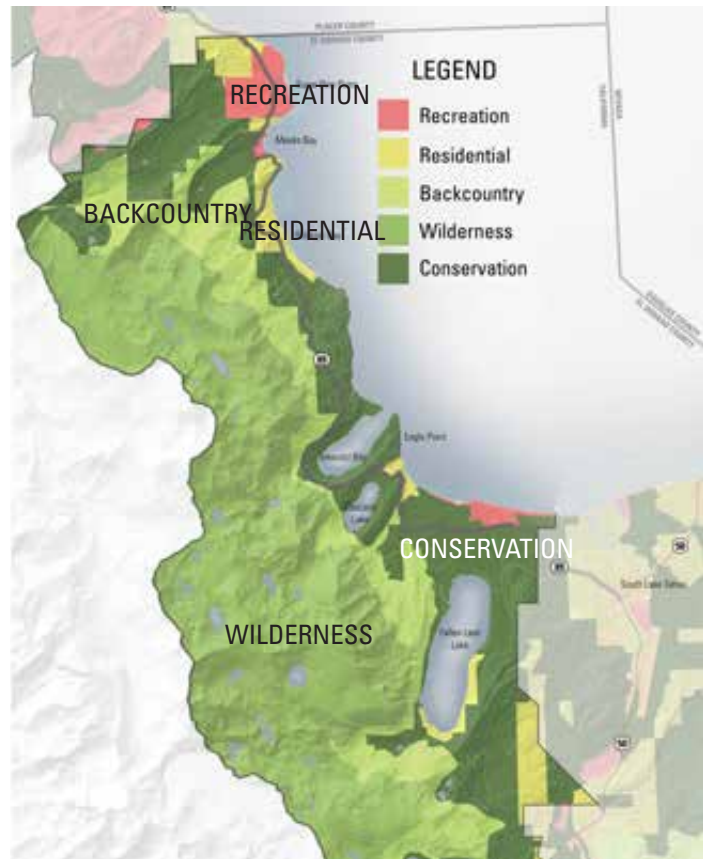


Figure 5: Land Use | SR 89 Corridor

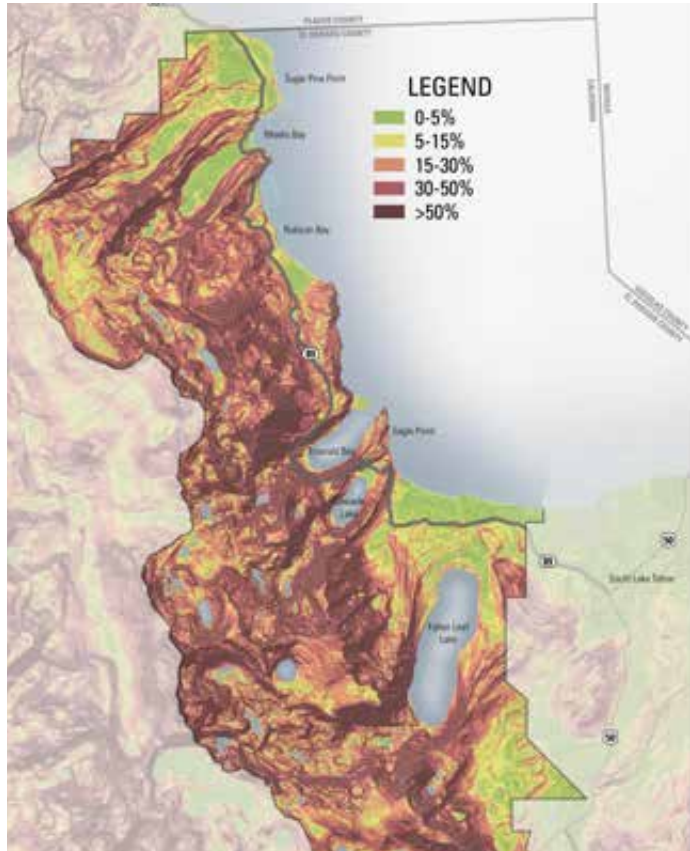


Figure 6: Terrain or Slope Analysis | SR 89 Corridor

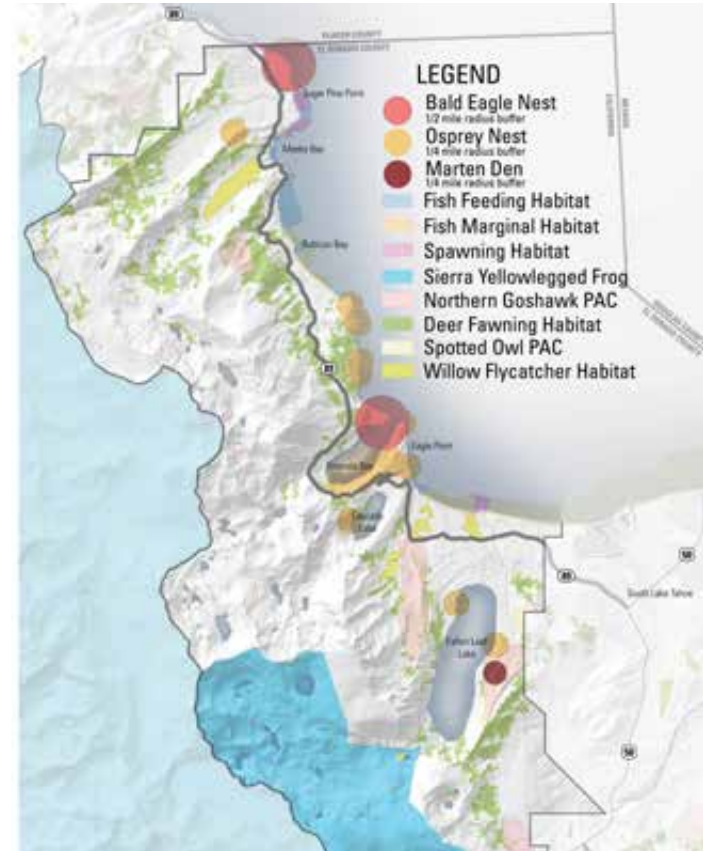


Figure 7: Natural Resources | SR 89 Corridor

Recreation Destinations and Use

The SR 89 corridor has a variety of both summer and winter recreation opportunities. Second to the east shore of Lake Tahoe, it offers the longest stretch of continuous, undeveloped publicly accessible shoreline which makes beach-going a popular activity. Day hikes, sight-seeing, and camping are also high demand activities. Distinct to this corridor, the area has a mix of both short vista stops, longer day use activities, and even longer overnight backcountry activities. The number of different activities and the well-publicized and highly-recognized Emerald Bay landscape combine to create one of Lake Tahoe's most visited locations.

The LTCCP used cell phone data to identify destination hot spots in Lake Tahoe. The area around Emerald Bay has high volumes of activity in the summer and winter. Camp Richardson, was identified as a minor destination hot spot.

The LTCCP estimated the corridor hosted 1,782,648 annual visitors in 2014. A third of the visitors likely recreated on beaches and in campsites from Pope Beach to Baldwin Beach. Records for Pope Beach, Camp Richardson, and Baldwin Beach accounted for 637,938 visitors who paid for parking in the summer of 2017.

Emerald Bay (which includes Inspiration Point; Bayview campground and trailhead; Eagle Falls trailhead; and Emerald Bay State Park with Vikingsholm, Eagle Point campground, and a boat-in campground) likely accounts for the highest volume of visitors. State Park record keeping shows a discrepancy in tracking accurate visitation volumes, but throughout the 1980's through early 2000's, annual attendance ranged from 500,000 to 600,000 just for the State Park facilities. Day hikers, sightseers, and people traveling around the Lake are not included in those counts.

The majority of visitors to the SR 89 corridor are overnight visitors, meaning they stay in Tahoe at least one night. The LTCCP found that 90 percent of visitors in the corridor were overnight visitors. 2018 intercept survey results showed a similar breakdown: 89 percent overnight visitors and 11 percent day visitor.

The Tahoe Prosperity Center's 2018 Measuring for Prosperity Report showed that summer lodging revenues have consistently grown since the 2009/2010 season. From 2009/2010 to 2016/2017, revenues grew by 84 percent in Zephyr Cove and Stateline, Nevada; by 83 percent for South Lake Tahoe; and by 36 percent for the North Shore. These numbers reflect the growing demand for visitation in Lake Tahoe and the subsequent desire for recreation access.

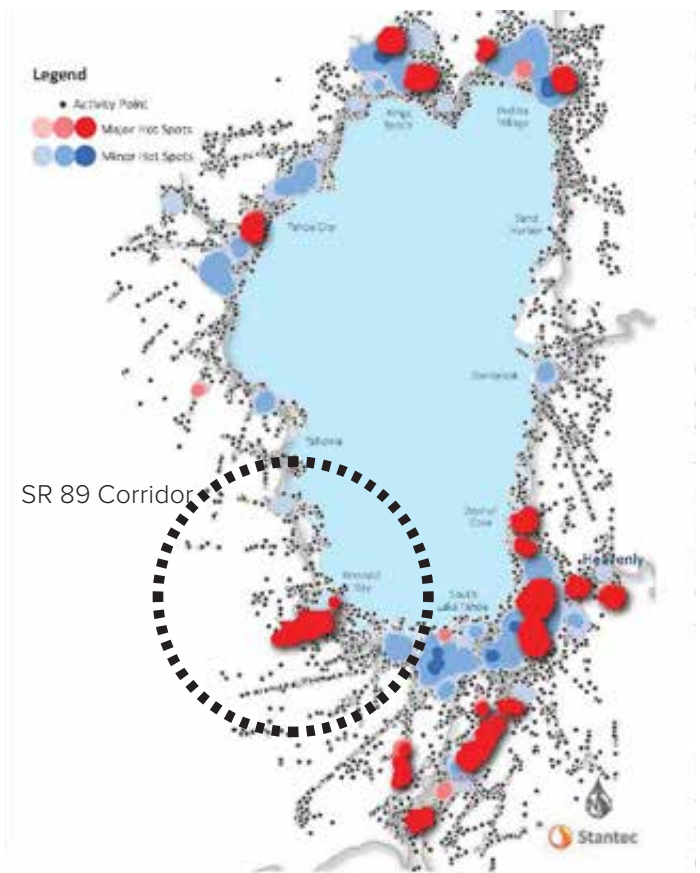


Figure 8: Hot Spot Destinations, July 2014, per the LTCC

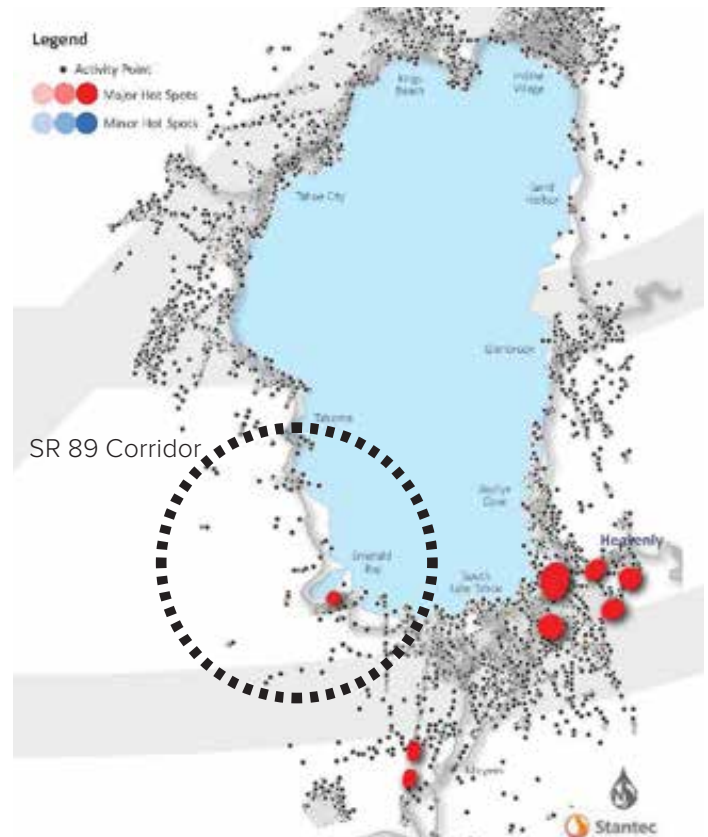


Figure 9: Hot Spot Destinations, Feb 2014, per the LTCC



Figure 10: Trails and Trailheads | SR 89 Corridor



Figure 11: Undeveloped, Publicly Accessible Shoreline

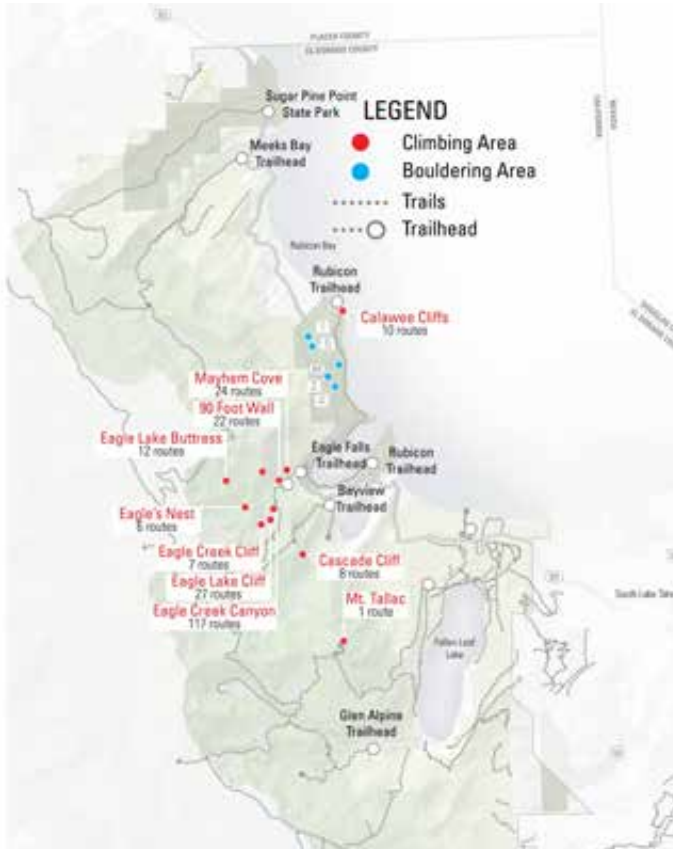


Figure 12: Climbing and Bouldering Locations | SR 89 Corridor



Figure 13: Winter Recreation Access | SR 89 Corridor

Geographic Origin and Future Growth Pressures

Lake Tahoe Visitors Authority's 2015/2016 Four Season Visitor Profile (LTVA Visitor Profile) identified 37 percent of South Shore 2015/2016 visitors originated from Northern California, 10 percent came from Southern California, and 10 percent came from Nevada. Sixty percent of respondents to the LTVA Visitor Profile survey stated they arrived to Lake Tahoe by a private vehicle. The anticipated growth for the Sacramento Valley, Bay Area, and Reno regions will result in continued increase in visitation volumes.

California's Department of Finance (DoF) population projections prepared January, 2018 estimated that by 2040, 2.25 million additional people would live in the Northern California counties that make up the Sacramento Area Council of Governments (SACOG) and the Association of Bay Area Governments (ABAG). Projections for 2060 are for an increase of 3.8 million people for a total of 10.4 million people living in those Northern California counties.

Northern Nevada is also projecting population growth. The 2019 Northern Nevada Economic Planning Indicators Committee (EPIC) Report update prepared for the Economic Development Authority of Western Nevada (EDAWN), forecasts an 8.6 percent population growth over the next five years. This is an increase of almost 55,000 people in the five-county region of Washoe County, Carson City, Douglas County, Lyon County, and Storey County. The Nevada State Demographer's 2018 population projections for 2037 also show significant increases. The Reno Carson City, Fernley Combined Statistical Area is projected to have a 12 percent population increase by 2037, equating to over 71,000 additional residents. This growth will create added demand for recreation access in Lake Tahoe.

Changing Demographic Trends

California is not only growing. It is diversifying and it is aging. In 2018, the DoF estimated that by 2060, 37 percent of the Northern California population areas previously described will identify as white, 23 percent as Asian, and 29 percent as Hispanic (any race). This is a change from 2018 which had an ethnicity composition of 43 percent white, 22 percent Asian, and 24 percent Hispanic (any race). Expectations for recreation access and types of use are likely to change with demographics. Communications, facilities, and management strategies will need to adjust accordingly.

DoF projections also indicate an aging population. By 2060, 23 percent of the population is estimated to be age 60 and above. That is an increase of 43 percent from the 2018 age distribution in which 15 percent of the population is age 60 and above. Facilities will need to allow for ease of mobility.

Transportation Facilities

SR 89 is a two-lane mountain highway throughout all of the study corridor. Traffic volumes, crash data, and transit use at a corridorwide level is summarized in the following section. More detailed information is presented by segment in the following chapters.

Traffic Volumes

Caltrans periodically collects traffic counts at various points along the SR 89 corridor. Counts extrapolated to peak month (summer) average daily counts are shown in Figure 14. As traffic volumes within a specific season can vary substantially day-to-day, some of the changes in volumes may be a result of differences in specific count days. This data is used to understand long-term trends and to give an overall idea of traffic levels at different points in the corridor.

Daily summer traffic volumes are highest at the south end of the corridor with 26,000 vehicles per day near the U.S. Highway 50/South Tahoe "Y" intersection and lowest at the north end of the corridor with 5,900 vehicles per day at Tahoma in 2016.

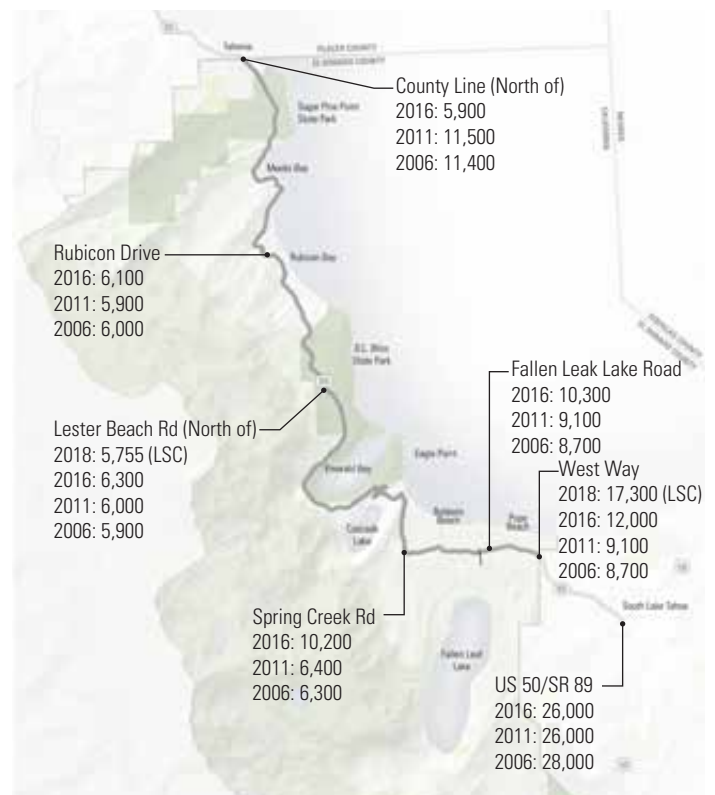


Figure 14: Peak Month Average Daily Traffic Volumes per Caltrans Counts, 2006, 2011, and 2016; Additional Peak Daily Count for West Way and Lester Beach Road Locations are per 2018 LSC Counts

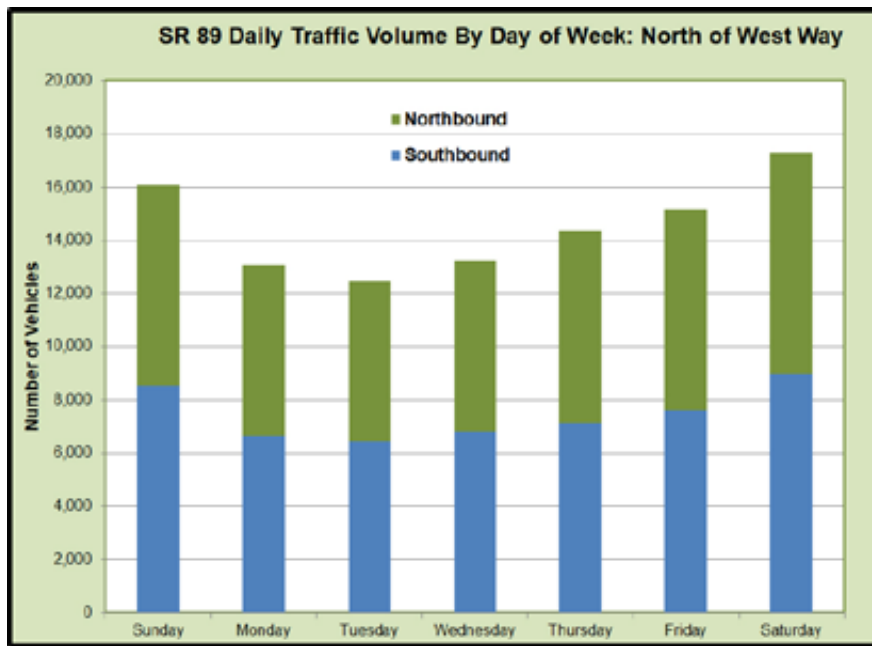


Figure 15: Daily Traffic Volumes By Day of Week North of West Way per LSC Summer 2018 Counts

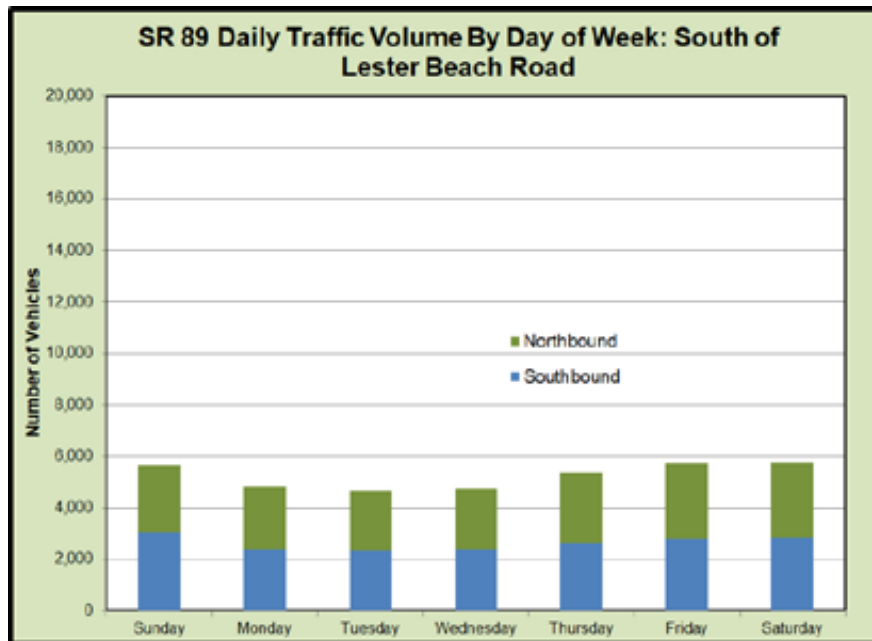


Figure 16: Daily Traffic Volumes By Day of Week South of Lester Beach Road per LSC Summer 2018 Counts

To obtain more current traffic counts within the study area, LSC installed radar-based traffic counters from Wednesday, August 1st to Wednesday, August 8th, 2018. The traffic counters were positioned along SR 89 just north of West Way and just south of Lester Beach Road. The Saturday peak daily counts are included in Figures 15 and 16.

Summer traffic volumes have been relatively flat over the last 20 years. However, the last few years of available counts show an increase in traffic levels south of Emerald Bay starting in 2014.

Distribution by Day of Week

Traffic volumes throughout the SR 89 corridor are highest on Saturdays and lowest on Tuesdays. The ratio of weekend to weekday traffic is higher south of Emerald Bay than it is north of Emerald Bay. This indicates frequent weekend shuttles to Emerald Bay from the South would have a high chance of success if implemented, in combination with additional management strategies.

Distribution by Hour

Saturday hourly directional volumes at the southern end of the corridor show a strong northbound flow in mid-morning with a corresponding strong southbound flow in late afternoon. In comparison, traffic volumes north of Emerald Bay are relatively flat from 10 AM to 4 PM and equal in both directions. This data confirms the survey data, that most visitors are entering and exiting the SR 89 corridor from the south. It also corresponds with parking observations at Pope Beach, Baldwin Beach, Emerald Bay, and D.L. Bliss which document that parking areas fill in the early morning.

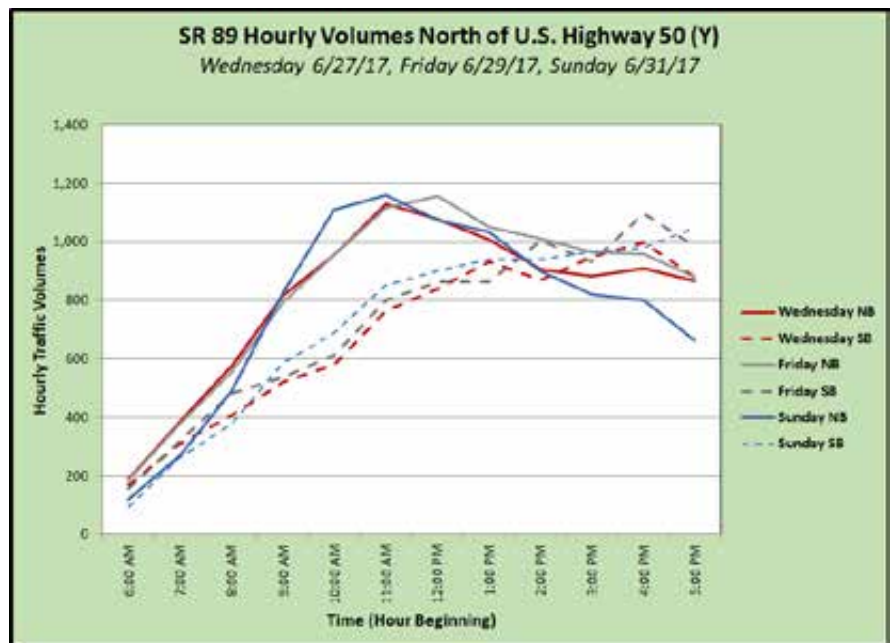


Figure 17: Hourly Volumes North of US 50 Intersection (Caltrans July 2017)

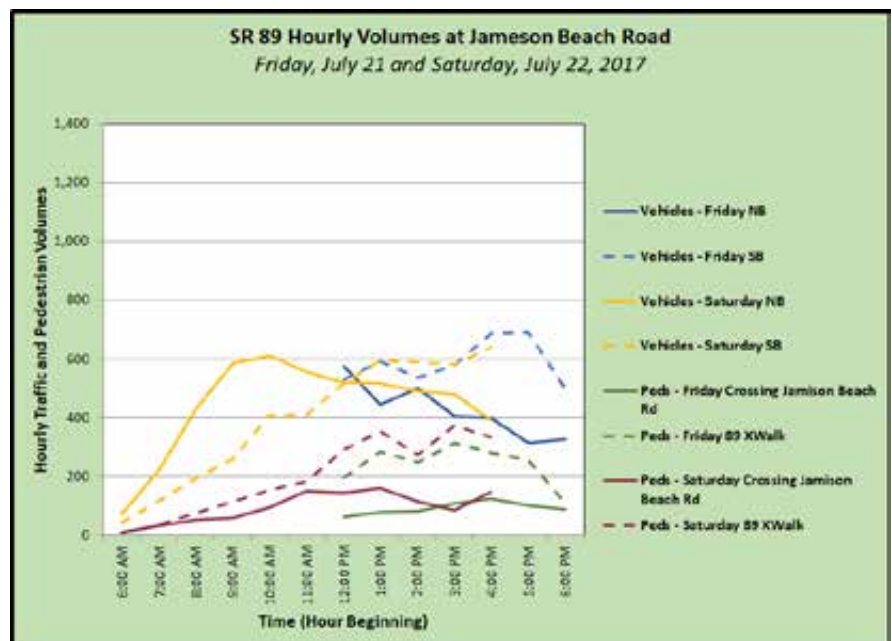


Figure 18: Hourly Volumes at Jameson Beach Road (Caltrans July 2017)

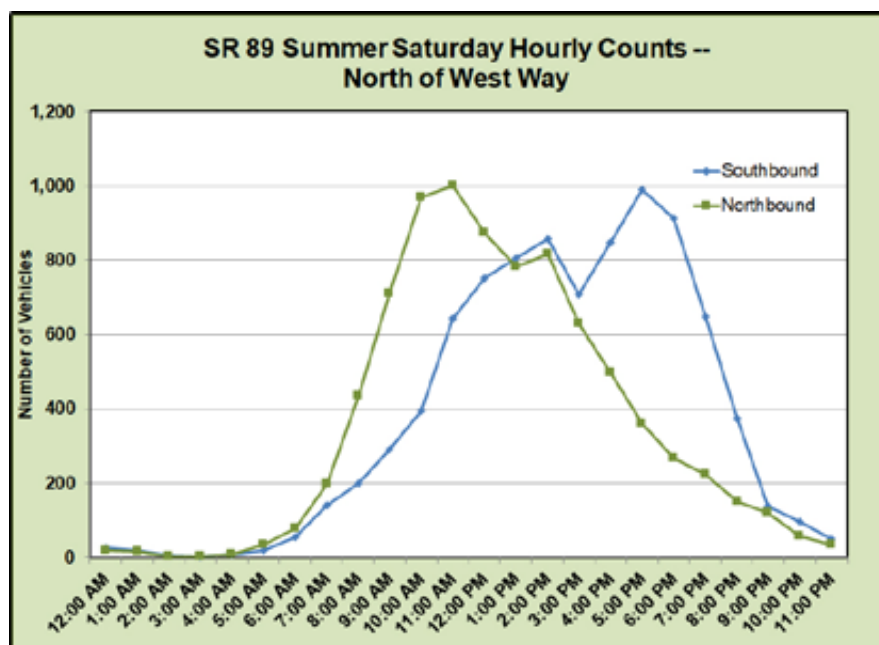


Figure 19: Hourly Traffic Volumes North of West Way (LSC Summer 2018)

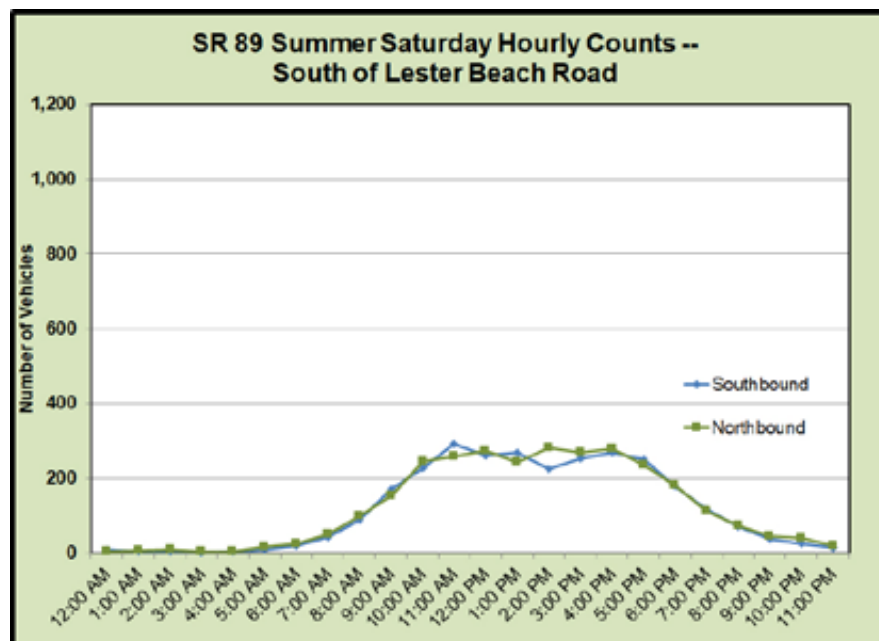


Figure 20: Hourly Traffic South of Lester Beach Road (LSC Summer 2018)

Traffic Delays

Substantial traffic delays can occur from May through October, but are most severe during July and August. Observed delays were up to a full 75 minutes (though average delays are lower). Delays are particularly concentrated between the Vikingsholm lot and Baldwin Beach Road (in both directions) and southbound south of Pope Beach Road. Overall, travel speed through the corridor was observed as low as 10 MPH in the northbound direction and 6 MPH in the southbound direction. Although there are safety benefits to this slow of a travel speed, this travel speed may be excessively slow, creating frustration and in turn can actually reduce safety by creating unpredictable driving behavior.

Delays were reported by the traffic analysis surveyor to be generated by pedestrian/bicycle crossing activity in the Camp Richardson, Inspiration Point, and Eagle Falls areas. Parked vehicles partially blocking travel lanes also created delays (including the need for oncoming vehicles to take turns using the available roadway width). Drivers simply stopping in the travel lanes to take pictures also created delays. Note that no construction was occurring on any of the travel time survey days.

Traffic congestion seriously impacts emergency response times in the corridor, with an estimated average of 12 minutes of delay for trips through the corridor and a maximum delay of 30 minutes.

INRIX Cellphone Delay Data

INRIX, a company that specializes in connected car services and transportation analytics, collects data streams from local transportation authorities, sensors on roadways, fleet vehicles, long haul trucks, taxis, and consumer users of the INRIX Traffic App. The INRIX data has been used to estimate the average vehicle speed and vehicle delay within the study area on an hourly basis throughout the calendar year. The smallest segment of analysis available through the INRIX dataset is the segment from the Y intersection with U.S. Highway 50 to Meeks Bay Avenue. Travel speeds and delay in the individual sub-corridors are therefore not available. INRIX data does not provide detailed information on the cause of delay, but the data is useful to review patterns in delay by day or time of day.

As shown in Table 1, the number of days with substantial traffic delays, peaks in July and August, is relatively high from May through October, and substantially lower in the winter months.

June through August experience the greatest number of days with substantial delay, with 25-28 days each month showing delay in the northbound direction and 16-18 days each month showing delay in the southbound direction. October also experienced significant delay on 25 days in the northbound direction and 10 days in the southbound direction, likely due to construction impacting traffic.

CORRIDORWIDE DELAYS				
	Percent of Month (by Days) with Substantial Traffic Delays		Total Number of Hours of Substantial Delay	
	Southbound	Northbound	Southbound	Northbound
January	16%	26%	7	16
February	7%	11%	3	3
March	6%	10%	2	3
April	10%	7%	3	2
May	23%	58%	18	43
June	53%	83%	35	100
July	61%	90%	53	92
August	58%	90%	47	100
September	27%	63%	17	57
October	32%	81%	20	91
November	30%	20%	12	7
December	13%	29%	6	11

Table 1: Corridorwide Delays

Source: LSC 2018 Traffic Delay Analysis

Caltrans Truck Count Data

Caltrans currently designates all of the SR 89 corridor as a “KPR (King Pin to Real Axle) Advisory” Route. Specifically, the 21.1 miles of roadway from U.S. Highway 50 on the south to Fawn Street in Homewood on the north is designated “A <30”, indicating that trucks with a length between the king pin and rear axle exceeding 30 feet are not advised.

Although a truck having a longer KPR (King Pin to Real Axle) than the “advised” length, is not illegal, driving such a truck in the switchback area may violate other laws, such as driving left of double yellow lines.

The highway’s hairpin turns constrain the size and type of vehicle that can travel the highway year-round. In the winter especially, the switchbacks, narrow shoulders, and icy roads create conditions that can be unsafe for large tractor trailer trucks.

The proportion of traffic that is comprised of large trucks is much lower in the SR 89 corridor than for typical California state highways, reflecting general awareness and adherence to the advisory truck length restrictions.

Larger trucks noted by number of axles are also a smaller proportion than statewide: 4 or 5 axle trucks comprise only 0.2 percent of total traffic in the southern portion of the corridor, with as few as 9 total trucks per day reported in the Caltrans counts.

SR 89 CALTRANS 2016 TRUCK COUNTS ¹							
	Average Annual Daily Traffic		Percent Trucks	Percent Trucks by Number of Axles			
	TOTAL	Truck		2	3	4	5+
North of US 50	16,900	273	1.6%	1.2%	0.2%	0.1%	0.1%
South of Fallen Leaf Road	5,100	78	1.5%	1.1%	0.2%	0.1%	0.1%
North of Bliss State Park	3,700	152	4.1%	3.3%	0.4%	0.3%	0.1%
South of Ward Creek	7,500	300	4.0%	1.4%	1.3%	1.0%	0.3%
South of SR 28	12,100	760	6.3%	4.4%	0.9%	0.4%	0.5%
Statewide Average			10.3%	4.5%	1.2%	0.4%	4.1%

Table 2: SR 89 Caltrans 2016 Truck Counts

Source: www.dot.ca.gov/trafficops/census



A tractor-trailer truck ignored the Caltrans KPR (King Pin to Real Axle) designation for SR 89 and became stuck and completely blocked the highway at Emerald Bay. The driver was cited for being over length and for failing to install chains on his vehicle.

Crash Data

Vehicle, pedestrian, and bicycle crashes are reported and stored in the California Highway Patrol Statewide Integrated Traffic Records System (SWITRS) and available through LTinfo.org, managed by TRPA. The dataset was compared for consistency with data in the draft Lake Tahoe Region Safety Strategy. Collision records for the previous five years (2013-2017) were reviewed for the corridor, and broken down by the following sub-corridors:

- Camp Richardson – U.S. Highway 50 to North of Spring Creek Road
- Emerald Bay – South of Cascade Creek Road to north of Two Ring Road
- Meeks Bay – South of Four Ring Road to El Dorado/Placer County Line

Crash rates (per million vehicle-miles of travel) are higher in the Emerald Bay area than elsewhere in the SR 89 corridor. However, all segments of the corridor have overall crash rates lower than the statewide average for similar roadways. They are also in line with other crash rates around the Tahoe Region. For example, the rate on the SR 28 corridor on the East Shore is 1.23 and the rate on U.S. Highway 50 in the central portion of South Lake Tahoe is 0.65. The highest rate in the Tahoe Region is along SR 28 in Tahoe City with a rate of 2.03.

Crash Data Highlights

- There were no fatalities in the corridor between 2013 and 2017.
- There is an average of 29 reported crashes per year in the study corridor, of which, 11 resulted in injuries.
- Most crashes are a result of a combination of unsafe travel speeds, improper turning movements, and drivers hitting objects.
- Crashes involving bicyclists were five percent of crashes while those involving a pedestrian were one percent.
- The most common type of crash in the Camp Richardson area is rear-end and “hit object.” Camp Richardson also has the highest proportion of rear-end crashes of all three sub-corridors. This could be due to stop-and-go traffic in this area as drivers slow for pedestrians or look for parking.
- At Emerald Bay, the most common type of crash is “hit object,” which includes crashes with wildlife and rocks in the roadway. The next most common type of crash is sideswipe. Both of these factors indicate that the narrow roadway, on-highway parking, and lack of shoulder contribute to crashes.
- In winter, avalanches can be a cause of crashes in Emerald Bay. Between 2013 and 2017, 12 crashes occurred in Emerald Bay during snowy/icy road conditions. Vehicles caught in avalanches are included in those counts.
- Most violations are attributed to unsafe speed in all three sub-corridors.

TRAFFIC CRASH SUMMARY BY TYPE OF COLLISION AND VIOLATION CATEGORY¹

	Total Crashes	Type of Collision						Violation Category			
		Head-On	Side-swipe	Rear End	Broadside	Hit Object	Other	DUI	Unsafe Speed	Improper Turning	Other
Camp Richardson	35	2	4	11	3	11	4	2	12	10	11
Emerald Ba	72	6	16	6	4	29	11	8	28	23	13
Meeks Bay	35	3	6	2	3	18	3	1	14	10	10
Total	142	11	26	19	10	58	18	11	24	43	34
Average Annual	28.4	2.2	5.2	3.8	2.0	11.6	3.6	2.2	10.8	8.6	6.8
Percent of Total		8%	18%	13%	7%	41%	13%	8%	38%	30%	24%

Table 3: SR 89 Traffic Crash Summary by Type of Collision and Violation

Source: www.dot.ca.gov/trafficops/census

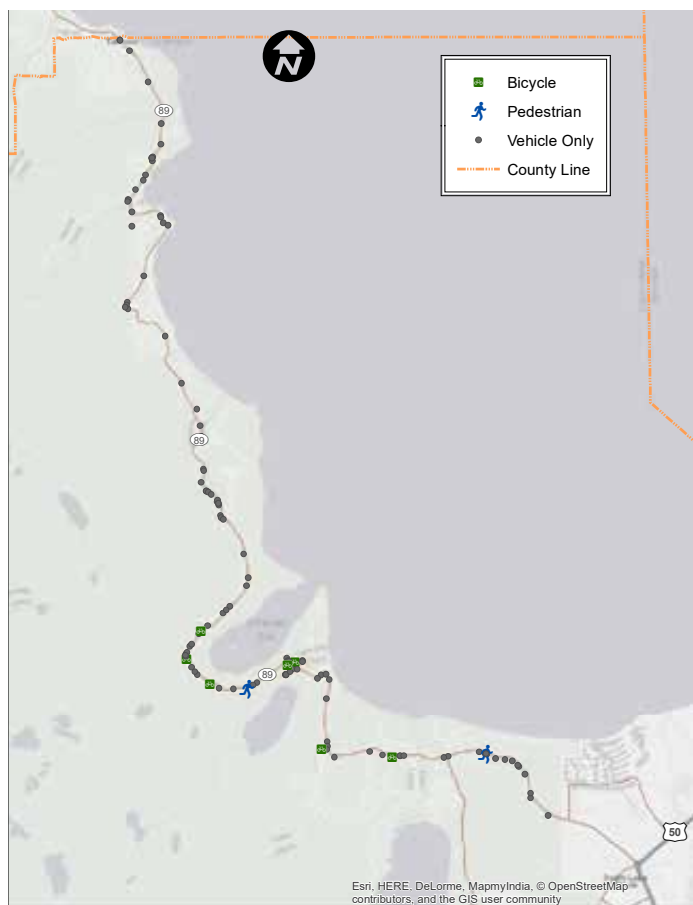


Figure 21: SR 89 Corridor Bicycle, Pedestrian, and Vehicle Only Crashes 2013-2017

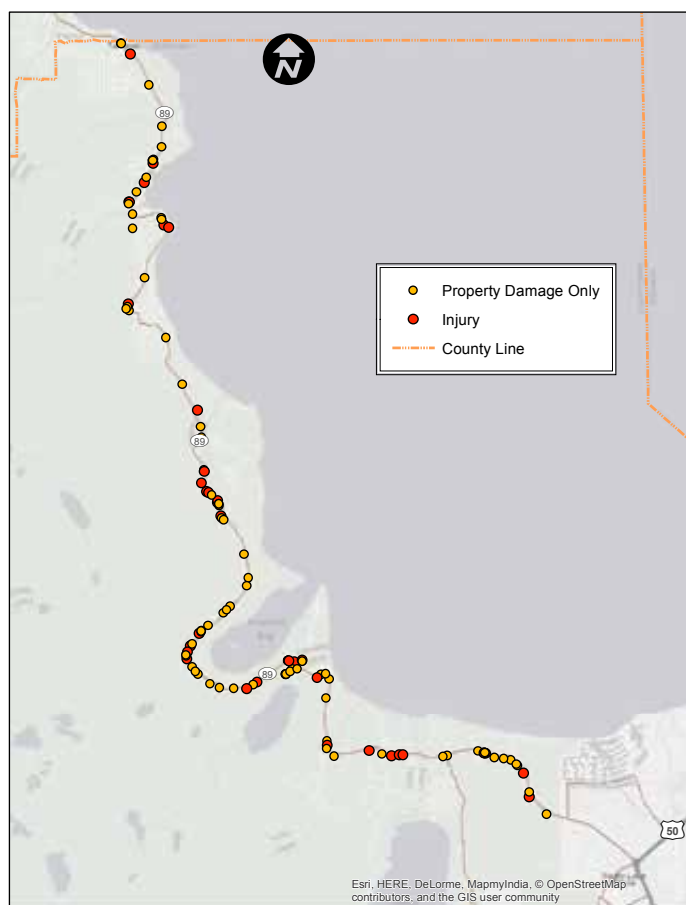


Figure 22: SR 89 Corridor Crash Severity 2013-2017

NUMBER OF CRASHES BY ROAD CONDITION ¹					
	Camp Richardson	Emerald Bay	Meeks Bay	Total	% of Total
Dry	32	58	20	110	77%
Wet	2	2	5	9	6%
Snowy/Icy	1	12	10	23	16%

Table 4: Number of Crashes by Road Condition 1/2013-12/2017

NUMBER OF CRASHES BY SEVERITY ¹					
	Camp Richardson	Emerald Bay	Meeks Bay	Total	% of Total
Total	35	72	35	142	
Injury	14	27	16	57	40%
Fatality	0	0	0	0	0%
Property Damage	21	45	19	85	60%

Table 5: Number of Crashes by Severity 1/2013-12/2017

NUMBER OF CRASHES INVOLVING A BICYCLIST OR A PEDESTRIAN ¹				
	Camp Richardson	Emerald Bay	Meeks Bay	Total
Total # of Persons Injured	16	33	27	76
Total # of Peds Injured	1	1	0	2
Total # of Cyclists Injured	2	5	0	7

Table 6: Number of Crashes Involving a Bicyclist or Pedestrian 1/2013-12/2017

¹Source: California Highway Patrol Statewide Integrated Traffic Records System (SWITRS)

Transit Ridership

Due to funding constraints and low ridership, the last year transit serviced the SR 89 corridor was 2018. Previously the Tahoe Transportation District (TTD) operated the Emerald Bay Trolley. The service plan has varied over the years depending on funding availability. The route typically extended from the South Tahoe Y to the Tahoe City Transit Center, except in 2014 when it only extended from the Y to Vikingsholm. The Trolley generally operated from late June to the first week in October. It typically operated daily for the week surrounding the July 4th holiday, on Friday through Monday from the 4th of July week to Labor Day, and then weekends only through the first weekend in October. Service was operated either hourly or every two hours from 8:30 AM to 5:30 PM or 6:30 PM, depending on the time of day and the year. The operation of the Trolley was impacted by the same traffic congestion that affects all travel through the corridor, as well as by the lack of shoulder space for bus stops.

Ridership in general tracked with service hours, as shown in Figure 23. In years with more service hours, ridership was higher, with the exception of 2017 when vehicle service hours increased over the previous year but ridership decreased slightly. Over the past five years, passengers per vehicle-hour averaged 10.3. Passengers per vehicle-hour were highest in 2013 at 11.5, when the trolley provided the most service hours. Ridership per vehicle-hour was also slightly higher than average in 2016 at 10.9, even though the bus ran less frequently (every 1.5 hours as opposed to every 1 hour and only from 8:30 AM to 5:00 PM).

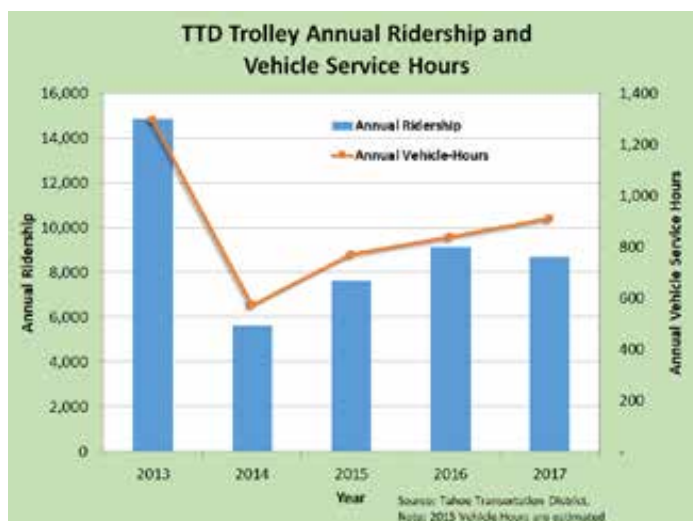


Figure 23: Trolley Ridership Compared to Service Hours

Transit Data Highlights

- The Emerald Bay Trolley hours, frequency, and route have varied over the years, due to funding limitations. While it has generated ridership up to 14,800 boardings per year and ridership per vehicle-hour of service levels that are common for transit services in rural areas, it did not reach the full potential for transit service in the SR 89 corridor.
- Ridership was higher in years when the route extended the full length from South Lake Tahoe to Tahoe City.
- Transit operations were impacted by traffic congestion and the lack of designated transit stops. This impacts the reliability of transit service for passengers and increases the costs of service.

Corridor Connection Plan Transit Vision

The LTCCP sets forth a vision for transit in Lake Tahoe. For the SR 89 corridor, the vision includes more frequent and convenient transit which would be implemented in tandem with parking management and strategies to incentivize the use of transit. This includes both in-corridor mobility hubs and connections to transit at bed bases, such as the Stateline casino core area. Local ferry shuttle is also envisioned as part of a holistic strategy for the corridor.

Short-Range Transit Plan

The TTD's 2017 Short-Range Transit Plan (SRT) provides policy and financial direction to guide transit planning. The SRT includes the following recommendations relevant to the corridor.

- Create a high-frequency (every 30-minutes) express route to move people from Stateline to Emerald Bay with continuing, lower frequency service to Tahoe City.
- Construct a safe, off-highway transit center at Emerald Bay.
- Provide areas for buses to safely turn around after Emerald Bay.
- Address road design issues around Emerald Bay to allow for improved transit service.
- Address avalanche control and road closures to improve consistency and allow for year-round service along the West Shore.
- Upgrade existing and install new infrastructure to support technological connectivity and address network gaps in the corridor.

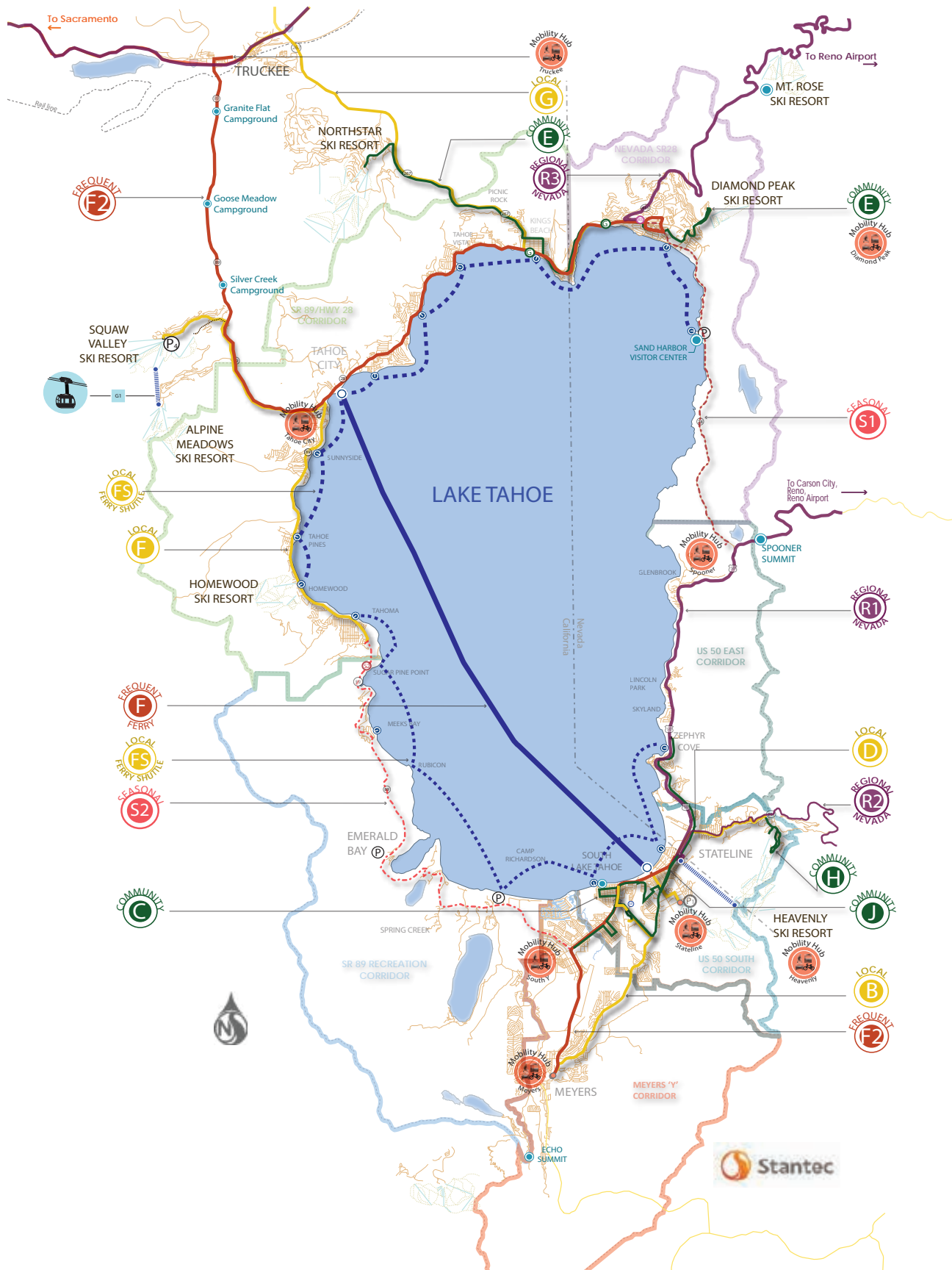


Figure 24: Corridor Connection Plan Transit System Recommendations

ORGANIZATION OF THE CORRIDOR

The corridor is organized into five segments. Each segment has defining physical characteristics, land uses, recreation opportunities, transportation, and visitor use patterns. As such, the challenges and potential strategies for each segment vary. Although opportunities for each segment are related to one another, the organization of the corridor into the different segments allows for greater focus on individual zones while also recognizing the need to address the issues and potential impacts to adjacent segments.

The five segments of the SR 89 corridor include:

- Pope to Baldwin
- Emerald Bay
- Rubicon Bay
- Meeks Bay
- Sugar Pine Point

The following chapters describe each segment in greater detail. Where available, and central to the development of transportation and visitor management strategies, information is presented regarding visitor use, parking, traffic delays, transit, land use, and bicycle facilities. An overview of each segment is summarized below.

Pope to Baldwin Segment

Defining Elements

- Popular recreation segment with multiple concessionaires operating on USFS lands with a visitor center and a historic site. Beach access and camping are top recreation activities. The LTCCP identified it as a hot spot for summer recreation.

Key Issues

- Congestion associated with beach access, pedestrian movement, and motorists searching for roadside parking after off-highway beach parking fills.

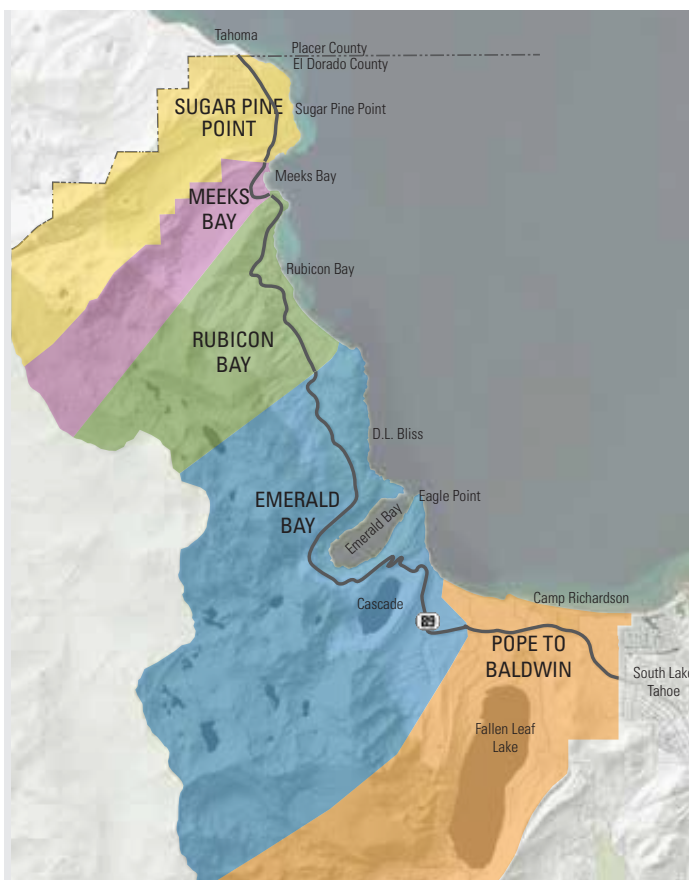


Figure 25: Segments of the SR 89 Corridor

Emerald Bay Segment

Defining Elements

- The most visited recreation segment in the corridor with a range of user activities that require different management strategies. Uses include visiting a beach, taking a day hike, camping, backpacking overnight in Desolation Wilderness, just stopping for a quick picture or to appreciate the view, and winter backcountry access. LTBMU and State Parks both have public lands in this segment. The roadway steeply climbs and winds its way from the Spring Creek Road to Emerald Bay.

Key Issues

- Congestion, roadside parking, and pedestrians walking in the roadway or on narrow shoulders due to insufficient off-highway parking to meet visitor demand. Illegal parking creates delays, impedes enforcement, reduces the visitor experience, increases erosion, and impacts stormwater quality projects. Topography, sensitive resources, and scenic impacts constrain the ability to build large amounts of new off-highway parking. Emergency access and year-round access are challenged by winter road closures due to rock slides and avalanches.

Rubicon Bay Segment

Defining Elements

- Highest percentage of privately-owned lands in comparison to other corridor segments, with a significant number of seasonal residences. Recreation Beach access is primarily private access or home owner association access. Neighborhood connectors to upland trails provide resident access to hiking trails and to backcountry ski opportunities.

Key Issues

- Narrow roadways, difficult terrain, and private lands constrain the opportunities to route the Tahoe Trail (a shared use, off-highway bike path) and provide trail connectivity between recreation destinations to encourage walking and biking to activities.

Meeks Bay Segment

Defining Elements

- Recreation area associated with Meeks Bay Resort, Meeks Bay Campground, and Meeks Bay Trailhead. The resort is operated by the Washoe Tribe and includes day use beach and picnic access and a variety of overnight lodging facilities. The Meeks Bay Trail parallels Meeks Creek, passes by several alpine lakes, and provides access to Desolation Wilderness.

Key Issues

- Transit facilities and continuation of the Tahoe Trail through the recreation area are needed. An extension of the West Shore shared-use path was built in 2018 and connects Sugar Pine Point State Park to Meeks Bay. Completion of the segment illustrates the need for shared-use path connectivity between recreation sites. Travel speeds and short sight distances make at-grade pedestrian crossings less desirable. Shoulder parking and trailhead use could increase as recreation use continues to increase for the Lake Tahoe Region. Winter recreation access needs to be accommodated.

Sugar Pine Point Segment

Defining Elements

- Mix of recreation and residential land uses. Sugar Pine Point State Park and its facilities are the primary recreation destinations along with access to LTBMU trails. Recreation areas transition to residential and commercial land uses in Tahoma.

Key Issues

- Roadside parking in Tahoma, which is north of the study area, creates congestion for the corridor to the north. Visitors to the State Park often park along the highway and cross the highway to avoid an entry fee.



Recreation activities in the corridor occur year-round. Winter recreation includes activities such as cross-country skiing, snow play, sight seeing, and backcountry access.

An aerial photograph of a crowded beach along a large lake. The beach is filled with people, colorful umbrellas, and lounge chairs. Several wooden docks extend into the water, with small boats and kayakers nearby. In the background, a range of mountains is visible under a blue sky with scattered white clouds. The water is a clear, light blue-green color.

POPE TO BALDWIN SEGMENT

POPE TO BALDWIN SEGMENT

The Pope to Baldwin Segment extends from West Way in El Dorado County north to Baldwin Beach Road.

Defining Elements

This segment serves as the southern gateway to recreation destinations along SR 89 to the north. The roadway transitions from five-lanes to two-lanes near the intersection with West Way. Federal lands flank the roadway, providing access to beaches, trails, equestrian facilities, historic and interpretive sites, a restaurant, lodging, and more.

Visitor Activities

Access to public beaches is a primary driver of recreation activity in this segment. All of the beach areas are highly visited from Memorial Day to Labor Day, with Pope Beach and Camp Richardson Resort seeing the highest concentration of visitors. This corresponds with being located close to the population center and bed base in South Lake Tahoe, Meyers, and Stateline and the level of development associated with these beaches. Trailhead access, historic tours, equestrian facilities, and the Taylor Creek Visitor Center are additional attractions. Weddings, music, theatre, and art events are also hosted throughout the summer at the Valhalla Estate of the Tallac Historic Site.

The Pope-Baldwin Bicycle Trail connects to the City of South Lake Tahoe to the south and provides a popular bike route for visitors and residents traveling to beaches, exploring the historic site, and enjoying the outdoors. Bike rental facilities are located just south of the corridor boundary along SR 89 and within the Camp Richardson Resort.

Key recreation sites include:

- Pope Beach
- Camp Richardson Resort
- Camp Richardson Corral
- Tallac Historic Site
- Fallen Leaf Campground
- Kiva Picnic Area
- Kiva Point
- Taylor Creek Visitor Center
- Taylor Creek Sno-Park
- Mt. Tallac Trailhead
- Baldwin Beach
- Desolation Wilderness Access

KEY ISSUES

Challenges within the Pope to Baldwin Segment are associated with the demand for beach access and high levels of pedestrian activity along the highway. Key issues to be addressed through the CMP include:

- Traffic congestion, especially near the SR 89/Jameson Beach Road and the SR 89/Pope Beach Road intersections, as visitors arrive to beach facilities and as drivers stop for pedestrians.
- Parking along the highway and traffic congestion associated with drivers turning around and searching for shoulder parking.
- Multiple ingresses and egresses off SR 89 serve individual recreation areas with few off-highway vehicular linkages between sites.
- Lack of dedicated transit infrastructure which would allow transit to bypass congested areas.
- Gaps in the multi-use trail network to connect to some of the recreation sites.
- Use of unimproved Fallen Leaf road as a bypass.
- Events in the corridor are sources of significant traffic, create additional demand for parking, and can impact traffic flow.

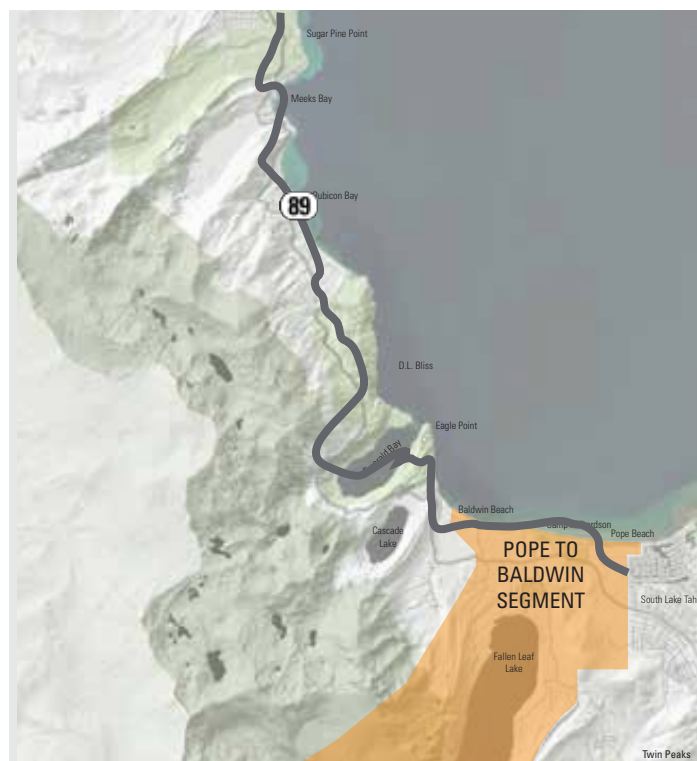


Figure 26: Pope to Baldwin Segment



Figure 27: Ownership | Pope to Baldwin Segment

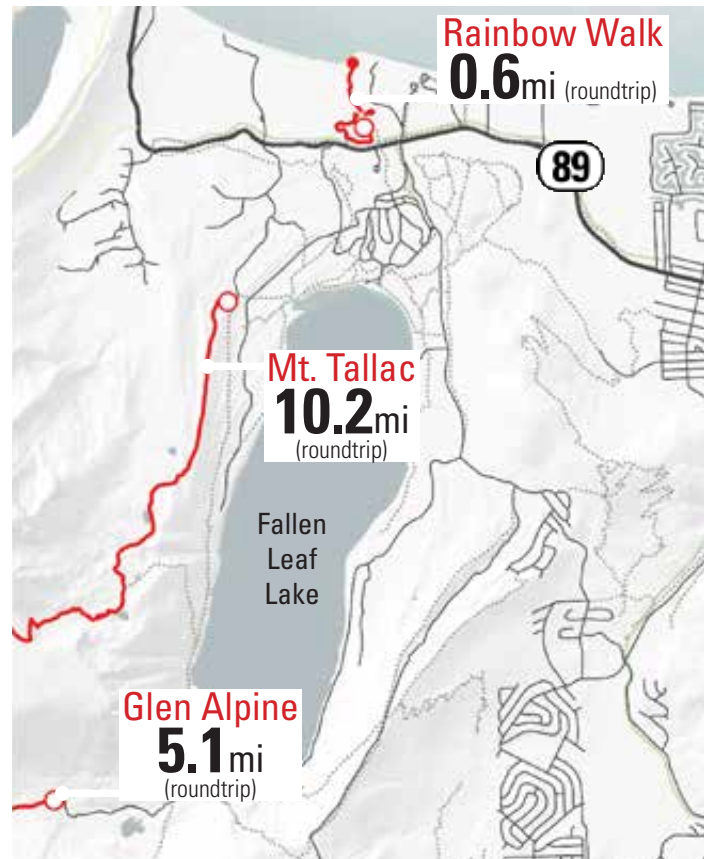


Figure 28: Trail Access | Pope to Baldwin Segment

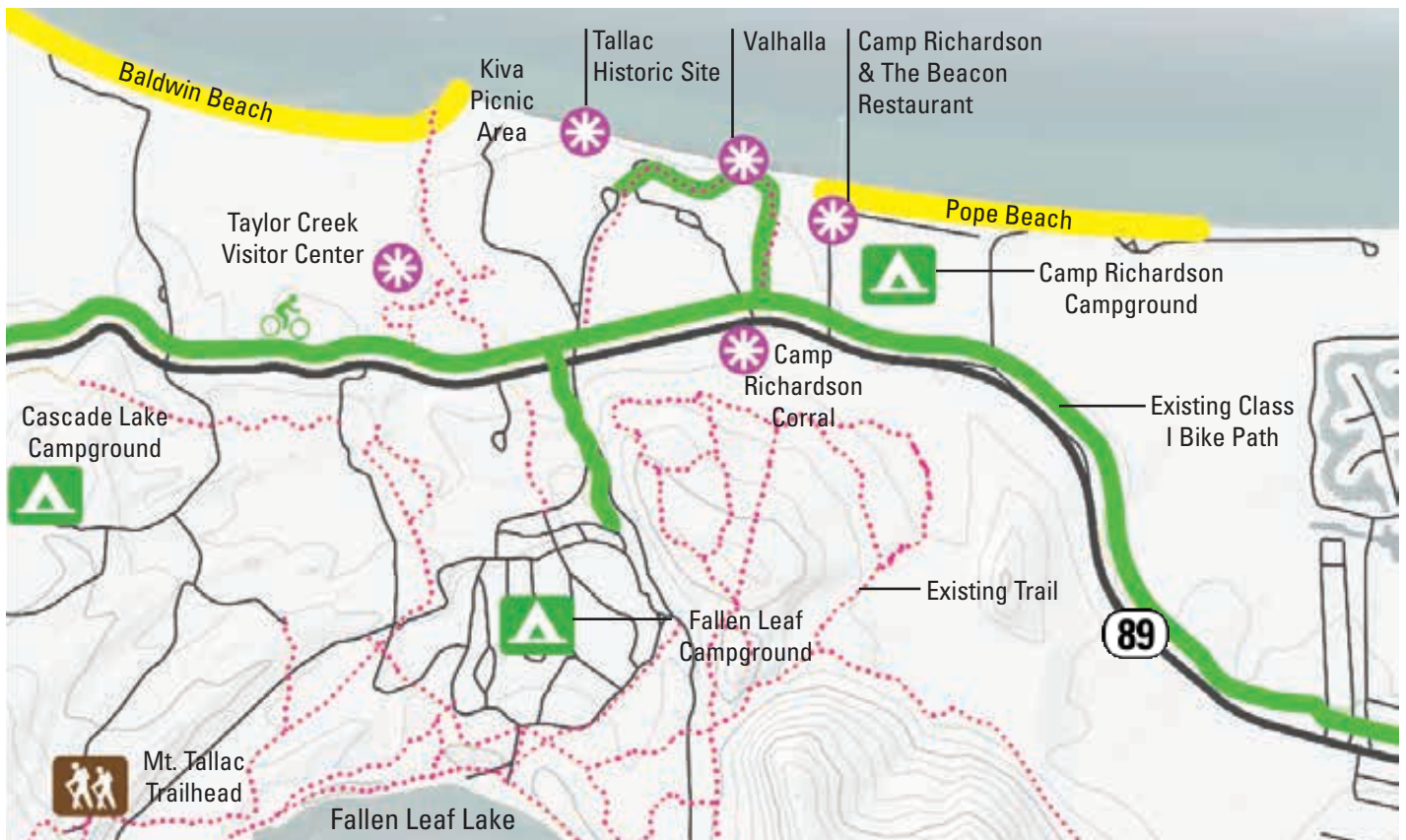


Figure 29: Recreation Areas | Pope to Baldwin Segment

VISITATION DATA

The proximity of the segment's public beaches to the communities in the South Shore makes it a highly popular destination for beach-goers. The mix of residents to visitors and overnight visitors to day visitors is similar to overall corridor averages. Eighty-three percent of survey respondents identified themselves as visitors, and 86 percent of those visitors stayed at least one night in the Lake Tahoe area.

Lodging types were fairly consistent with overall survey results, with the exception of an increase in the number of people staying at a campground. Consistent with other segments, the primary mode of travel to recreation sites was by personal vehicle. However, almost twice the percentage of respondents said they arrived to the site by bicycle than the corridorwide average. This finding is also supported by the high trail use numbers.

Length of stay is an average of 5.5 to 5.6 hours. This is longer than the corridor average, but consistent with survey responses of "spending the day at the beach". For comparison, visitor duration at Sand Harbor is about 4 hours.

Seventy-five percent of postcard survey respondents² arrived to the segment from the south and indicated they would return to the south. Twenty-five percent arrived and returned from the north. The responses indicate a transit shuttle program with a mobility hub south of the segment is likely to intercept users. It also shows that the majority of visitors to the location are likely arriving from the South Shore communities. Transit programs that originate from significant bed bases should be considered as a component of a transit solution for the segment.

A high percentage of summer visitors to the Pope to Baldwin segment are either visiting a beach or camping. Because of the concessionaires and more developed facilities in this segment, respondents (18 percent) also indicated that they visited the area to attend an event.

Comparing attendance record data to the LTCCP's estimated number of overall corridor users, almost 36 percent of the corridor visitors are visiting the recreation areas in the Pope to Baldwin segment. This is a bi-product of the variety of activities available and the proximity of the recreation to the South Shore communities and lodging areas. It should be noted that many of the sites in the segment do not track attendance or it was not provided to the analysis team. Therefore, the volume of visitors to the segment could be even higher. As shown in the visitation numbers, the highest volume of visitors visit Pope Beach and Camp Richardson Resort. This is consistent with parking and traffic patterns.

IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Developing a mobility hub with a transit system could be effective given the high percentage of overnight users and percentage of people returning from the direction from which they came.
- Providing transit can serve the recreation areas because the primary uses (camping and visiting a beach) are centrally located.
- Providing shared-use path access to the beaches can encourage walking and biking. Especially since campers are likely to walk and bike to destinations within the segment.
- Dispersing use and providing transit can help manage demand. The highest concentration of visitor demand is around Pope Beach and Camp Richardson Resort.



The Ice Cream Parlor at Camp Richardson is a popular stop for visitors.

Sources for Table 7: Visitation Statistics | Pope to Baldwin Segment:

- 1 TRPA 2014 and 2018 Travel Mode Surveys
- 2 LSC 2018 Postcard Survey (Pre-paid survey postcards were placed under windshield wipers of vehicles parked along the corridor in late July. Of the 2000 surveys distributed, 138 were returned.)
- 3 2018 SR 89 Corridor Intercept Survey
- 4 USFS Visitation Logs and Camp Richardson Summary
- 5 2018 SR 89 Online Recreation Survey
- 6 TRPA 2010 and 2014 Travel Mode Surveys

VISITATION STATISTICS POPE TO BALDWIN SEGMENT			
	Pope to Baldwin Segment Information Only	Overall Corridor Comparison 2017 LTCCP	Overall Corridor Average
Resident Versus Visitor			
Full-Time or Seasonal Resident	17% ¹	13%	19% ¹
Visitor	83% ¹	87%	81% ¹
Visitor Type			
Overnight Visitors	86% ¹	90%	89% ¹
Day Visitors	14% ¹	10%	11% ¹
Lodging Type			
Vacation Rental	20.5% ¹		21.2% ¹
Second Home	5.4% ¹		7.4% ¹
Friend's Residence	10.1% ¹		8.5% ¹
Timeshare	10.4% ¹		8.3% ¹
Motel/Hotel	34.2% ¹		36.9% ¹
Campground	19.5% ¹		17.6% ¹
Length of Day Use Stay	5.5 hours ² / 5.6 hours ³		4.7 hours ² / 3.6 hours ³
Number of People in Trip Party	2.9 people ² / 4.2 people ³		3.7 people ² / 3.6 people ³
Travel Modes ⁶			
Car/Truck/Van	82%		86%
Motorcycle/Moped	1%		2%
Transit	0%		1%
Ferry or Boat	3%		2%
Bicycle	9%		5%
Walk	4%		5%
Trip Pattern ²			
Arrive from and Return to South	75%		52%
Arrive from and Return to North	25%		39%
Traveling Through	0%		9%
Primary Recreation Activity			
Visit a Beach	45% ² / 36% ³	82% ⁵	25% ² / 40% ³
Day Hike	18% ² / 0% ³	87% ⁵	46% ² / 31% ³
Quick Stop to See the View	0% ² / 5% ³	36% ⁵	5% ² / 5% ³
Drive Around the Lake	0% ² / 0% ³	38% ⁵	4% ² / 1% ³
Take a Bike Ride	9% ² /5% ³	51% ⁵	1% ² / 2% ³
Overnight Backpack Trip	0% ² / 0% ³	34% ⁵	9% ² / 5% ³
Camping	N/A / 45% ³		N/A / 15% ³
Visit a Historic Site	0% ² / N/A		4% ² / 4% ³
Attend an Event	18% ² / N/A		1% ² / N/A
Other	9% ² / 9% ³		4% ² / 4% ³
Number of 2017 Visitors at Paid Parking Areas (637,938 Total for Parking Areas Listed Below) ⁴			
Pope Beach and Camp Richardson Resort	513,013	Estimated 1.8 Million in 2014 for Entire Corridor	
Baldwin Beach	124,925		

Table 7: Visitation Statistics for the Pope to Baldwin Segment

TRAFFIC DELAY

Traffic delays at the SR 89 intersections with Pope Beach Road and Jameson Beach Road are a critical issue for this segment. Travel time delays and their origins have been studied by Caltrans and transportation engineers. In addition to the delays discussed below, special events impact traffic flow. Commuters often use SR 28 along the East Shore to avoid traffic during events.

Travel Time Delays

Surveyors who drove the corridor on multiple peak weekends and weekdays reported that delays were generated by pedestrian/bicycle crossing activity, queuing for beach entries, parked vehicles partially blocking travel lanes, motorists stopping to park along the highway, and drivers needing to stop to allow oncoming vehicles to take turns using the available roadway width. No construction was occurring on any of the travel time survey days.

Data points for the analysis showed the following:

- The peak delay for northbound traffic occurred at 12:00 PM. The delay was for 23 minutes and occurred between West Way and Pope Beach Road. A shorter, 4-minute, delay occurred during the same trip between Pope Beach Road and Jameson Beach Road.
- The peak delay for southbound traffic occurred at 10:30 AM for 14 minutes between Pope Beach Road.

Intersection and Queuing Studies

Caltrans staff monitored traffic queuing at SR 89 north and south of Jameson Beach Road. Traffic engineering consultants worked with the California Highway Patrol (CHP) to assess traffic flow patterns associated with pedestrians crossing the SR 89/Jameson Beach Road intersection. They also conducted surveys for pedestrian crossing the intersection to determine the potential for reducing the number of pedestrian crossings by reorganizing or relocating land uses at the intersection.

Queue Lengths

The queue length study documented northbound vehicles backed up 9,400 linear feet, or almost two miles (approximately 210 cars), from the SR 89/Jameson Beach Road intersection at 12:00 PM on a peak Saturday in July, 2017. On a Friday in July, 2017, traffic queued for 5,800 linear feet, or just over a mile (approximately 127 cars), in the northbound direction at 2:01 PM.

IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Developing parking management strategies can reduce the queue for visitors entering Pope Beach via personal vehicle, such as:
 - Moving the check-in kiosk closer to Pope Beach could increase the off-highway queuing area.
 - Shifting to automated ticketing systems would allow visitors to park and then pay at a kiosk with a roving ranger to provide oversight and user information.
 - Utilizing a reservation system with congestion-based pricing for parking could distribute arrival times and encourage turn over.
- Moving land uses at the SR 89/Jameson Beach Road intersection and adjusting intersection design could reduce delays associated with pedestrian crossings.
 - The Mountain Sports Center, Ice Cream Shop, Coffee Shop, and mountainside shoulder parking could shift to the lakeside of SR 89.
 - Moving the pedestrian crossing from the eastern leg of the intersection to the western leg would allow vehicles exiting Jameson Beach Road to turn left while pedestrians cross.
 - Conditions can be monitored and when triggered, a signalized intersection could be installed with timing to hold pedestrians for at least 60 seconds.
- Relocating roadside parking to off-highway locations and creating a no-shoulder parking zone can reduce vehicles searching for parking and reduce the number of pedestrian crossings at Jameson Beach Road.

Sources for Table 8: Traffic Delay Statistics | Pope to Baldwin Segment:

- 1 LSC SR 89 Travel Time Survey Analysis
- 2 Camp Richardson Queue Investigation, July 21 & 22, 2017, Eric Royer, PE, Caltrans District 3 Traffic Operations
- 3 LSC SR 89/Jameson Beach Road Intersection Pedestrian Crossing Control Demonstration July 7, 2018
- 4 LSC SR 89/Jameson Beach Road Intersection Pedestrian Movement Survey August 2, 2018

TRAFFIC DELAY STATISTICS POPE TO BALDWIN SEGMENT				
Length of Delay ¹				
Segment	Northbound Traffic Peak Minutes of Delay	Northbound Traffic Peak Time of Delay	Southbound Traffic Peak Minutes of Delay	Southbound Traffic Peak Time of Delay
West Way to Pope Beach Road	23 minutes	12:00PM	14 minutes	10:30AM
Pope Beach Road to Jameson Beach Road	4 minutes	12:00PM	4 minutes	12:54PM
Jameson Beach Road to Baldwin Beach Road	6 minutes	1:30PM	5 minutes	2:30PM
Queue Lengths at Camp Richardson SR 89/Jameson Beach Road Intersection ²				
Date of Caltrans Investigations	Time of Queue	Direction	Max. Length	Time in Queue
Friday, July 21, 2017	2:01PM	NB	5,800FT	12 minutes
	4:23PM	SB	5,700FT	13 minutes
Saturday, July 22, 2017	10:00AM	NB	7,100FT	9 minutes
	12:00PM	NB	9,400FT	28 minutes
	4:30PM	SB	7,700FT	30 minutes
Traffic Stopped for Pedestrians at SR 89/Jameson Beach Road Intersection ²				
Saturday Hour	Percent of Time Stopped for Pedestrians	Average/ Maximum Time Stopped for Pedestrians	Average/Maximum Time Traffic Moving	
11:00AM - 1:00PM	24.7%	15 sec/45 sec	39 sec/5 min 1 sec	
3:00PM - 4:00PM	29.9%	16 sec/30 sec	30 sec/1 min 57 sec	
Traffic Flow with Varied Pedestrian Hold Times ³				
Vehicles per Hour without Traffic Control	728 (baseline traffic flow)			
Vehicles per Hour with 30 Seconds Ped Hold Time	694	5% decrease in capacity		
Vehicles per Hour with 60 Seconds Ped Hold Time	807	8% increase in capacity		
Pedestrian Patterns at Camp Richardson SR 89/Jameson Beach Road Intersection ⁴				
	Groups		Persons	
	Number	Percentage	Number	Percentage
Crossings to Mountain Sports Center (Mountainside)				
Crossings to/from Lakeside	20	56%	75	57%
Crossings to/from Mountainside	16	44%	56	43%
Crossings to Ice Cream Shop (Mountainside)				
Crossings to/from Lakeside	102	48%	439	51%
Crossings to/from Mountainside	112	52%	423	49%
Crossings to Coffee Shop (Mountainside)				
Crossings to/from Lakeside	19	63%	40	65%
Crossings to/from Mountainside	11	37%	22	35%
Potential Reduction of Highway Crossings with Land Use Changes ⁴				
	Net Reduction or Increase of Highway Crossings			
Moving Mountain Sports Center to the Lakeside	25% (100% minus 43%/57%)			
Moving Ice Cream Shop to the Lakeside	4% (100% minus 49%/51%)			
Moving Coffee Shop to the Lakeside	46% (100% minus 35%/65%)			

Table 8: Traffic Delay Statistics for the Pope to Baldwin Segment

Peak queues for southbound traffic at the SR 89/Jameson Beach Road occurred later in the day. On a peak Saturday, traffic was backed up for 7,700 linear feet, or almost one and a half miles, at 4:30 PM. On Friday, the length of vehicles was 5,700 linear feet, or over mile of slow moving cars, at 4:23 PM.

The sources of the queues were found to be as follows:

- The inability of the Pope Beach facility to admit visitors as fast as they arrive. Beach-going traffic begins to back up along the highway. The gap in the queue between Pope Beach Road and Jameson Beach Road supports this assessment. This is the first cause of congestion. Additional sources of queuing occur northbound of this location.
- Queuing starts at Jameson Beach Road when the Pope Beach lot is full and visitors shift to search for parking further to the north.
- Drivers stop to ask questions of the attendant at Jameson Beach Road which causes motorists wanting to enter the Camp Richardson area to back up on the highway.
- Drivers slow throughout the area to look for shoulder parking.
- Drivers stop at the beacon at Jameson Beach Road, even when inactive, to unload passengers.

Caltrans reported that once the Pope Beach parking lot fills up, SR 89 becomes a de-facto parking lot. The report states “drivers behave as if they are in a parking lot,” creating congestion on the highway as drivers slow for parking activity, pedestrians, and to find their own parking space. This is corroborated by the shoulder parking counts collected and analyzed as part of the SR 89 corridor data collection efforts.

Pedestrian Crossings at Jameson Beach Road Intersection

Holding Pedestrians at Longer Wait Intervals

As described previously, a source of the traffic congestion in this segment is generated by pedestrians crossing SR 89 at Jameson Beach Road. Two studies were conducted to evaluate potential strategies to address the issues created by pedestrian crossings.

The first study assessed the improvement in traffic flow by controlling the length of time pedestrians had to wait before having an opportunity to cross the highway. A baseline was established to document how many cars could pass through the intersection without any pedestrian hold times (drivers yielded to pedestrians as they arrived at the crosswalk). Then, California Highway Patrol staff worked with traffic engineers to hold pedestrians for 30-second and 60-second intervals and evaluate the number of cars that were able to move through the intersection.



Traffic can back up for two miles south of the SR 89/Jameson Beach Road intersection during a peak summer weekend.

When pedestrians were stopped and not able to cross until 30-seconds after the first pedestrian arrived at the intersection, traffic flow capacity decreased by 5 percent. When pedestrians were stopped and not able to cross until 60-seconds after the first pedestrian arrived at the intersection, traffic capacity increased by 8 percent.

This indicates congestion at the intersection would be improved by providing a 60-second hold time as part of any future signal timing.

Reorganizing Land Uses

Pedestrian surveys were conducted at the three key activity generators on the south side of the SR 89 crosswalk adjacent to Jameson Beach Road. The striped pedestrian crossing is located on the eastern leg of the intersection, north of the ice cream shop. The data is useful to assess whether relocating activity centers to the lakeside of the highway could reduce pedestrian crossing activity and reduce traffic delays and conflicts. Customers at the coffee shop, mountain sports bike rental store, and the ice cream shop were asked where they were coming from and going to within the Camp Richardson area. The locations were organized into northern (lakeside) destinations and southern (mountainside) destinations and analyzed to determine pedestrian crossing patterns across SR 89.



Pedestrians cross to the lakeside of the SR 89/Jameson Beach Road intersection.



Parking queues to get to the beach and other facilities located at the end of Jameson Beach Road.

Findings were as follows:

- 65 percent of the one-way pedestrian trips generated by the Coffee Shop customers were to/from locations on the lakeside of SR 89 and the remaining 35 percent were to/from mountainside locations. Moving the Coffee Shop to a location on the lakeside of SR 89 would reduce highway crossings by 45 percent.
- 57 percent of the Mountain Sports bike rental center pedestrian trips are to/from locations on the lakeside of SR 89 and 43 percent are to/from mountainside locations. Shifting the location of this store to the lakeside would reduce overall customer pedestrian crossings by 25 percent.
- The customer pattern for the Ice Cream Store was found to be more equal. Shifting this establishment to the lakeside would only reduce customer crossing activity by 4 percent.
- 39 percent of the people surveyed at the Ice Cream Store survey location indicated their next destination was shoulder parking along the mountainside of the highway. This accounts for 80 percent of the people who were walking to/from a mountainside location. Relocating both the Ice Cream Shop and mountainside shoulder parking to a lakeside location would reduce pedestrian crossings by 90 percent.
- The data indicates that relocating Camp Richardson's Coffee Shop, the Mountain Sports Center Rental, and mountainside shoulder parking to the lakeside of SR 89 would significantly reduce pedestrian crossings.



Beach-goers park along the highway when off-highway parking areas fill. Traffic slows as motorists search for available spaces.

PARKING DATA

As discussed in the travel delay section, roadside parking is a cause of congestion. It also reduces visitor experience, creates erosion, and impacts lake clarity. There are 921 off-highway parking spots to serve the recreation area, but the majority of people want to park near Pope Beach or Camp Richardson Resort. Parking areas such as Baldwin Beach and Kiva Picnic Area fill later in the day. These facilities are not as well known to visitors even though they are only a mile and a half away from Pope Beach. As previously stated, shoulder parking transforms SR 89 into a de-facto parking lot where drivers create congestion as they troll for spaces along the road.

Parking Data

LSC conducted parking counts along SR 89 in the Camp Richardson area in August of 2018. Counts were also conducted as part of Caltrans' evaluation of the SR 89/Jameson Beach Road intersection and as part of the USFS project planning for circulation improvements in Camp Richardson.

State Park and USFS management logs reflect that the queue to Pope Beach starts at 8:00 AM. At that time traffic begins to back up into the highway and congestion begins. The Pope Beach parking is full by 11:30 AM and turnover doesn't begin until 3:00 PM.

Baldwin Beach parking doesn't fill until later in the afternoon. The queue begins at 11:30 AM just as the Pope Beach parking typically closes. The kiosk for Baldwin Beach is farther from the highway than the Pope Beach kiosk. Therefore, traffic congestion along the highway that is associated with Baldwin Beach is not as significant as it is for Pope Beach because more vehicles can queue before reaching SR 89.

LSC monitored shoulder parking along SR 89 between the southernmost point of observed shoulder parking activity south of Pope Beach Road (about 0.2 miles to the south) and the Valhalla access drive to the north of Jameson Beach Road. The area was divided into three sections: Valhalla to Jameson Beach Road, Jameson Beach Road to Pope Beach access drive, and Pope Beach access drive to a point 0.2 miles to the south. Shoulder parking activity was relatively low until the 12:00 PM hour when the beach parking lots filled. From noon to 2:00 PM cars continued to find spaces to park along the shoulder, until it reached a peak of 232 vehicles. The average duration of all parking observed was 2.7 hours

IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Establishing a no parking zone could provide clarity and consistency in parking strategies.
- Relocating an appropriate number of shoulder parked cars to new off-highway parking facilities near Camp Richardson Resort would help accommodate demand.
- Relocating the demand for shoulder parking to a mobility hub and providing transit for beach access would help manage congestion.
- Improving wayfinding and vehicular circulation by linking off-highway parking areas and reducing the number of intersections with SR 89 would improve utilization of existing parking area and manage congestion.
- Using parking management strategies, including reservations and congestion-based pricing, would help manage visitor demands and create capacity by encouraging parking turnover.
- Considering opportunities for temporary off-highway parking locations to accommodate special event parking would manage peak congestion.
- Addressing the lack of broadband infrastructure would facilitate real-time parking management strategies and transit connectivity.



Shoulder parking occurs on both the mountainside and lakeside of the highway.

Sources Table 9: Parking Data Statistics | Pope to Baldwin Segment:

- 1 LSC 2018 Camp Richardson Parking Counts
- 2 Camp Richardson Queue Investigation, July 21 & 22, 2017, Eric Royer, PE, Caltrans District 3 Traffic Operations
- 3 USFS Camp Richardson 2013 Campground and Vehicle Circulation BMP Retrofit
- 4 LSC Assessment of USFS and CSP 2018 Parking Management Logs

PARKING DATA STATISTICS | POPE TO BALDWIN SEGMENT

Number of Existing Off-Highway Parking Spaces Available (921 total)								
Pope Beach & Camp Richardson Parking Lot Spaces			445					
Tallac Historic Site to Taylor Creek Parking Lot Spaces			302 (not including lots marked as private)					
Baldwin Beach Parking Lot Spaces			174					
Sno-Park Parking Lot Spaces			127					
Observed Shoulder Parking								
	Aug. 18, 2018 Counts ¹		July 21 & 22, 2017 ²		USFS Camp Richardson 2013 Campground and Vehicle Circulation BMP Retrofit ³			
Total Observed Number of Cars at Peak Time	232		Up to 270 cars from Jameson Beach Road south 4,100FT, number of cars observed to the north was not recorded		Identified 90 cars parked along SR 89 and 75 cars parked along Jameson Beach Road			
Pope Beach Road to 0.2 Miles South	48							
Pope Beach Road to Jameson Beach Road	124							
Jameson Beach Road to Valhalla Road	60							
Shoulder Parking Accumulation Times ¹								
	10:00AM	11:00AM	12:00PM	1:00PM	2:00PM	3:00PM	4:00PM	5:00PM
Total Number of Cars	8	18	112	203	232	185	182	82
Average Time of Parking Lot Closures ⁴								
	Time Entry Queue Starts		Time Parking is Full		Time Turn Over Starts		Average Check-in Time	
Pope Beach Parking	8:00AM		11:30AM		3:00		1 minute	
Baldwin Beach Parking	11:30AM		12:15PM		4:30P		N/A	

Table 9: Parking Data Statistics for the Pope to Baldwin Segment

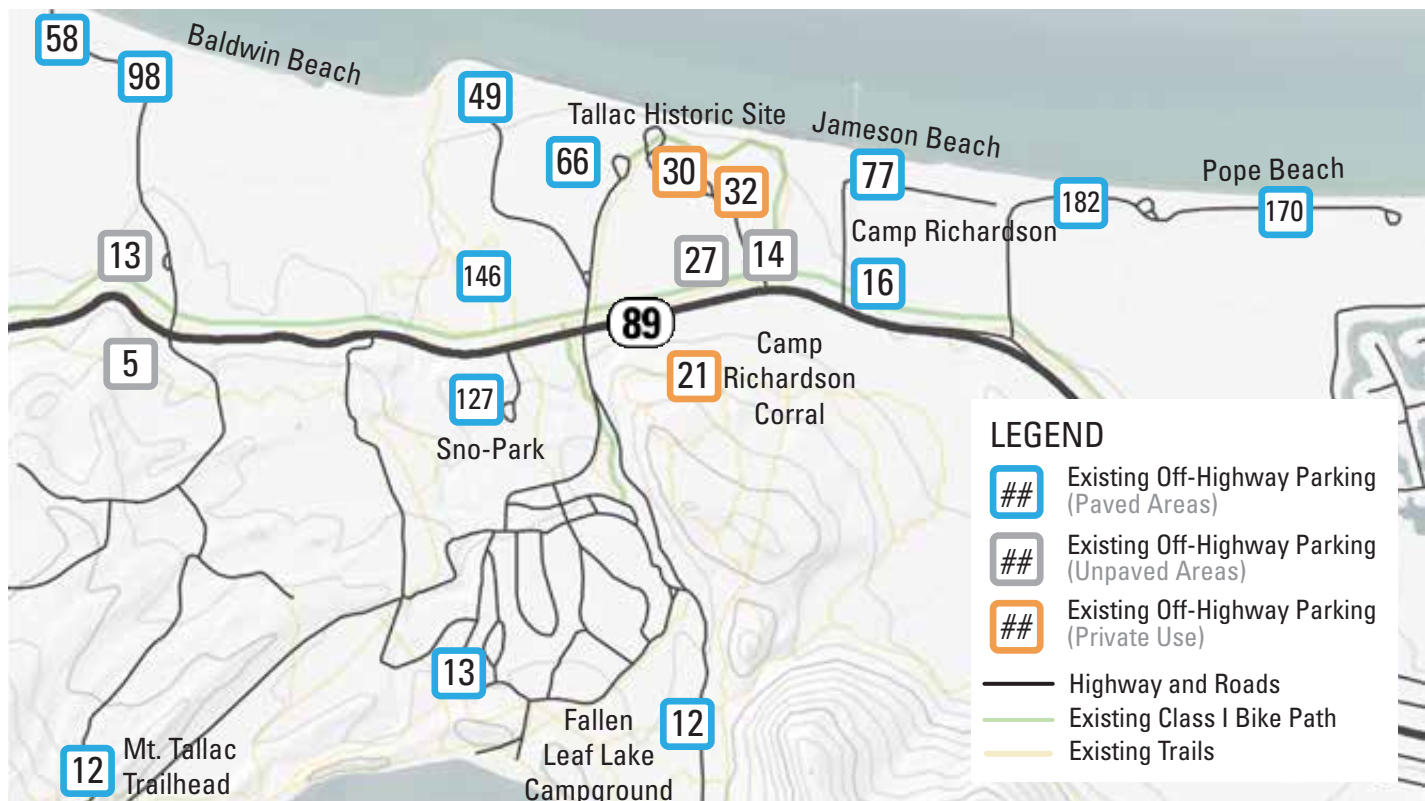


Figure 30: Off-Highway Parking Locations and Numbers | Pope to Baldwin Segment

TRANSIT FACILITIES AND RIDERSHIP

Transit stops serving the Pope to Baldwin Segment either have been or are currently located at Pope Beach Road, Lester Beach Road, near the Camp Richardson Corral, near the Taylor Creek Visitor Center, and at Baldwin Beach Road.

Transit to the segment is constrained by traffic congestion. Transit buses experience the same delays as other motorists. Congestion is created by queuing for beach access, pedestrian crossings, and trolling for parking. Because beach-goers will be sitting in the same traffic in a bus or a personal vehicle and they have a range of gear and equipment that they want to bring along, many would prefer the convenience of a personal vehicle and do not use transit. Communicating to travelers that parking is full, restricting roadside parking, and providing a convenient and frequent bus service could increase future use.

The lack of fiber and broadband infrastructure technology constrains the ability for land managers, transit service providers, and concessionaires to communicate with and connect visitors with real-time parking and transit information.

IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Accommodating beach gear and equipment such as coolers and uninflated beach toys can make transit more attractive for beach-goers.
- Provide drop-offs and pick-ups at beach sites can service recreation destinations.
- Designing transit stops so buses can pull off the highway to load and unload passengers can increase the comfort of passengers.
- Managing congestion can make transit a desirable option for visitors. A transit bypass route is likely not a feasible alternative.
- Providing infrastructure for improved technology and access to fiber communications can create the stage for successful real-time transit and parking management programs.



A northbound bus stop along SR 89 was located south of the corridor study area near 15th Street.



The southbound bus stop near Jameson Beach Road was located off the highway near the bike shop.

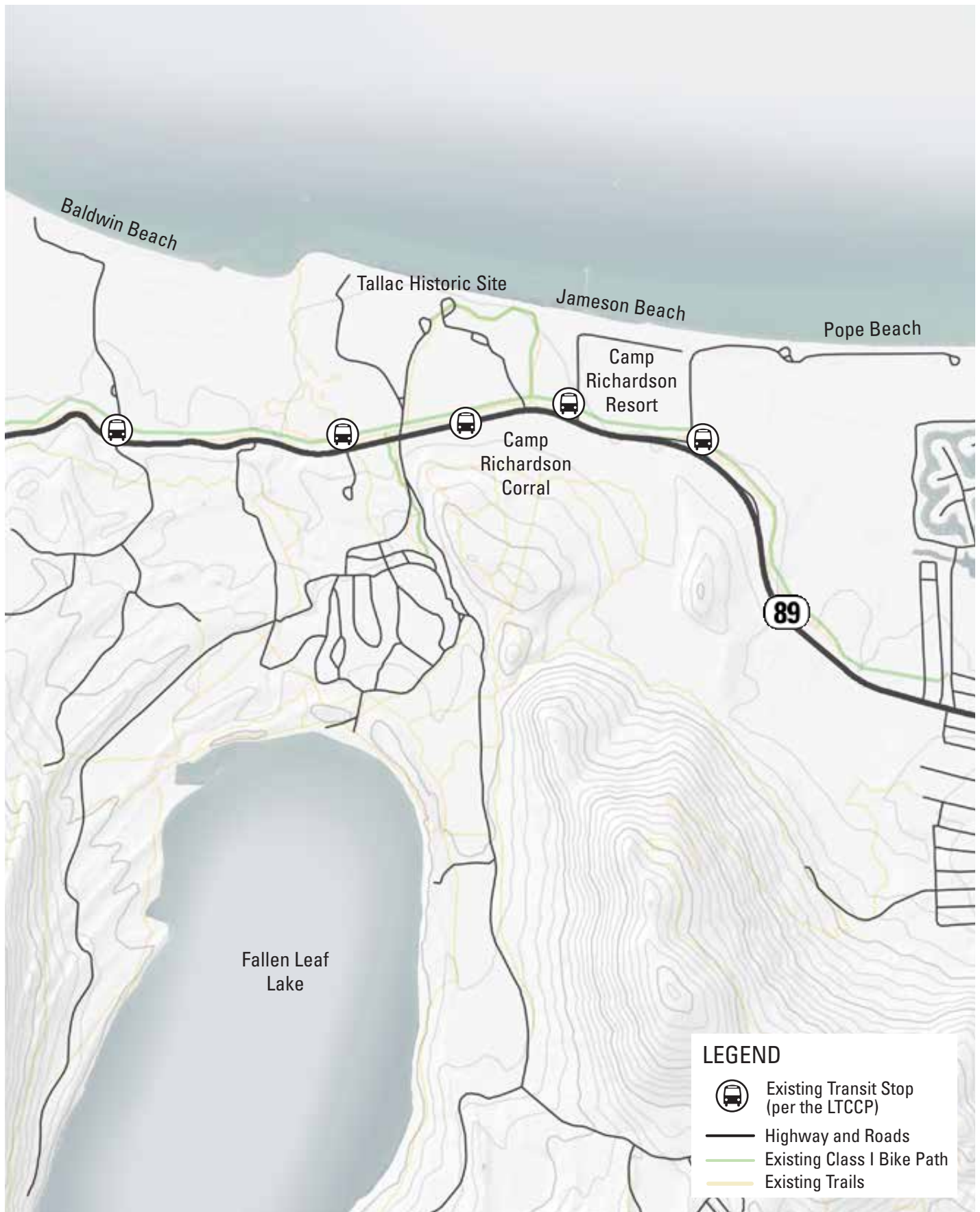


Figure 31: 2018 Transit Stop Locations | Pope to Baldwin Segment

BICYCLE AND PEDESTRIAN FACILITIES

The Pope-Baldwin Bicycle Trail is a shared use, Class I facility connecting the recreation areas around Camp Richardson to the community of South Lake Tahoe. The trail is highly used both for access to recreation areas and as a recreation activity itself for campers and visitors of the area.

Use Data

Count data shows high use volumes along the bike path. The count station south of Pope Beach recorded the highest levels of use. That portion of the trail is three to four times busier than the trail at Baldwin Beach. Overall, at both stations, use is highest in July and on Saturdays.

Use data at the Camp Richardson location includes hourly counts and a split between pedestrians and bicyclists. Total path activity occurs between noon and the 3 PM hour, with up to 235 path users in an hour. The data also indicates that 17 percent of total path use is by pedestrians and 83 percent by bicyclists.

Existing Facilities

The Pope-Baldwin Bicycle Trail extends from the residential neighborhoods of South Lake Tahoe to the south to Spring Creek Road to the north. The 3.4-mile path is a central spine through the segment. Additional Class I facilities connect to the backbone trail and provide user access to the Tallac Historic Site and to Fallen Leaf Lake. Future Class I facilities are planned to further connect users to their recreation destination via a bike path. Routes are planned along Jameson Beach Road, Baldwin Beach Road, and as part of future roadway circulation improvements in the Tallac Historic Site area.

IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Building upon the success and use of the Pope-Baldwin Bicycle Trail can continue to promote walking and biking to destinations.
- Adjusting the alignment of the shared-use path would reduce the conflict with vehicles at the SR 89/Jameson Beach Road intersection.
- Providing trail segments to beach destinations and connecting trail systems to future mobility hubs and parking areas could reduce vehicular use. This includes shared-use paths along Jameson Beach Road and Baldwin Beach Road.
- Minimizing at-grade trail crossings reduces conflicts.
- Prioritizing the use of public lands for future alternative trail alignments can increase trail feasibility.
- Utilizing shared-use path systems to provide visitor access to recreation areas can reduce vehicular use.
- Formalizing the trail corridor and connection from the Gardner Mountain neighborhood to Camp Richardson Resort with an unpaved, but improved trail can provide erosion control and increase multi-modal access.



The Pope-Baldwin Bicycle Trail has high volumes of use. The path crosses Jameson Beach Road near the SR 89 intersection which contributes to the vehicular queues at the intersection.



The Pope-Baldwin Bicycle Trail connects the neighborhoods south of the corridor to recreation destinations.

Sources Table 10: Shared-Use Path Statistics I
Pope to Baldwin Segment:

1 2018 TRPA Monitoring Data

2 TRPA Bicycle and Pedestrian Counter at Camp Richardson, Thursday, July 27, 2017

SHARED-USE PATH STATISTICS POPE TO BALDWIN SEGMENT										
Pope-Baldwin Bicycle Trail User 2018 Monthly Counts ¹										
	May 2018		June 2018		July 2018		August 2018		September 2018	
South of Pope Beach	17,085		42,262		62,397		41,437		24,586	
Baldwin Beach	5,437		13,094		15,672		11,321		8,020	
Pope-Baldwin Bicycle Trail User 2018 Typical Daily Counts ¹										
	Sun		Mon		Tue		Wed	Thur	Fri	Sat
South of Pope Beach	1,961		1,545		1,612		1,612	1,620	1,636	2,228
Baldwin Beach	419		449		414		465	437	406	510
Bicyclist and Pedestrian Users per Hour on Pope-Baldwin Bicycle Trail (Thursday, July 27, 2017) ²										
	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM
Bicycle	1	10	9	26	72	107	121	215	129	199
Pedestrian	0	0	12	13	16	9	11	20	23	18
	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	
Bicycle	206	146	107	38	31	30	4	2	1	
Pedestrian	16	13	9	6	2	0	2	0	0	

Table 10: Shared-Use Path Statistics for the Pope to Baldwin Segment



Figure 32: Existing and Planned Shared-Use Paths | Pope to Baldwin Segment



EMERALD BAY SEGMENT

EMERALD BAY SEGMENT

The Emerald Bay Segment extends from Baldwin Beach Road, wraps around Emerald Bay, and includes D.L. Bliss State Park.

Defining Elements

Emerald Bay, one of California's 36 National Natural Landmark sites, is one of Lake Tahoe's most popular and photographed locations and is the corridor's most heavily used segment. The Lake Tahoe Visitor Authority's 2015 Visitor Profile Study reported that 7 percent of summer visitors and 5 percent of fall visitors chose Tahoe South as their destination because of access to Emerald Bay. The North Lake Tahoe Resort Association's Visitor Research from the summer of 2014 found that 47 percent of survey respondents indicated spending time at Emerald Bay during their visit. This data reinforces the importance of Emerald Bay as a destination for visitors.

D.L. Bliss State Park and Emerald Bay State Park neighbor each other. The adjacency means that although Emerald Bay may receive the majority of visitors, the impacts of the visitation are also felt at D.L. Bliss. Parking at D.L. Bliss also fills quickly on a peak summer day. The two state parks are connected by the Rubicon Trail, which can be a recreation destination in and of itself. Hikers can either start to the north at the D.L. Bliss Rubicon Trailhead or to the south at the Emerald Bay Rubicon Trailhead near Eagle Point Campground. The 7.3-mile trail wraps around the edge of Lake Tahoe's cliffs and coves, has pristine views of the lake and the bay, and provides access to Vikingsholm.

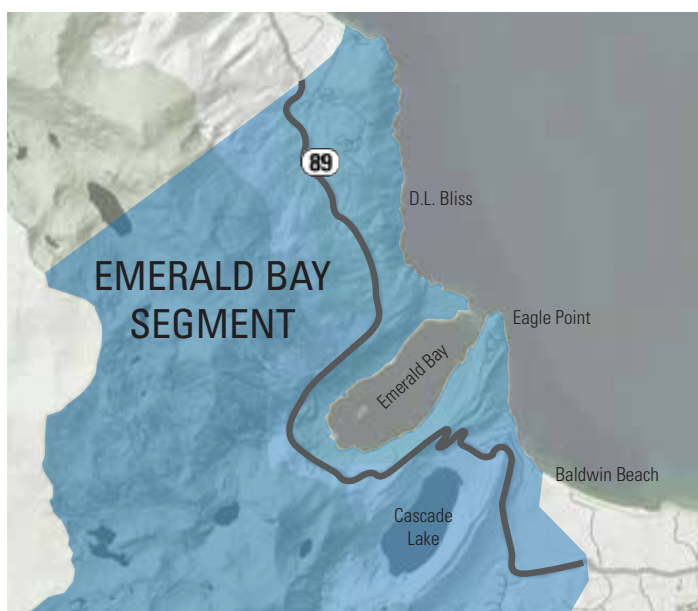


Figure 33: Emerald Bay Segment

KEY ISSUES

Challenges within the Emerald Bay Segment are tied to the site's popularity and the variety of activities which include from a quick photo, short day hikes, rock climbing, beach access, and overnight backcountry access. Visitor demand during peak season exceeds off-highway parking capacity, resulting in significant roadside parking and pedestrians walking in and along the highway. Key issues to address include:

- Parking along the highway and traffic congestion associated with drivers turning around and searching for shoulder parking.
- High volumes of pedestrians walking along and in the roadway.
- Narrow roadway design with steep shoulders and hairpin turns that impact transit access.
- Lack of avalanche control impacts year-round access for emergency responders and residents.
- Lack of designated facilities for transit pull-offs.
- Lack of shared-use path facilities for off-highway bicycle and pedestrian circulation and access.
- High volumes of visitors with limited facilities, funding, and staff resources.
- Difficulty enforcing no-parking areas. Enforcement of illegal roadside parking is constrained by lack of funding, consistent strategies, technology, ticket pricing, and operational requirements (such as an officer being present to tow a ticketed vehicle).
- A need for wildlife crossings to be assessed and accommodated for, especially at the viaduct.
- Stormwater impacts from vehicles parking on the viaduct and other shoulder areas.
- Physical constraints of the area. The viaduct and Vikingsholm parking area have subsiding soils which require creative engineering. The need for improvements also provides an opportunity to address multiple corridor issues.
- Lack of technology infrastructure to implement new strategies for parking management, transit, and enforcement.
- Off-highway parking areas are closed in the winter and a part of the off-season and snow is not removed. Therefore, people park along the highway shoulder to access the backcountry.



Figure 34: Ownership | Emerald Bay Segment

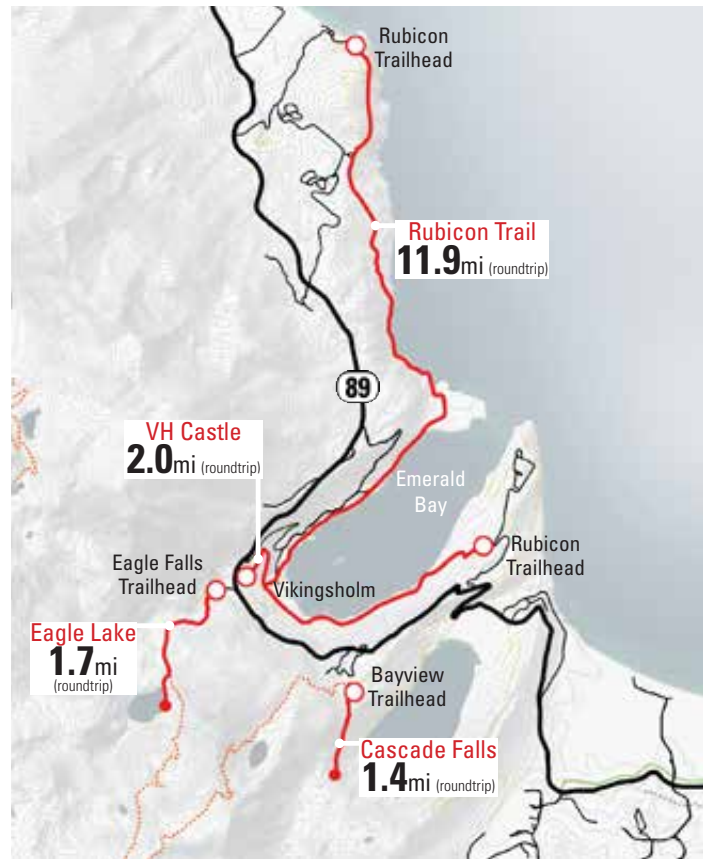


Figure 35: Trail Access | Emerald Bay Segment

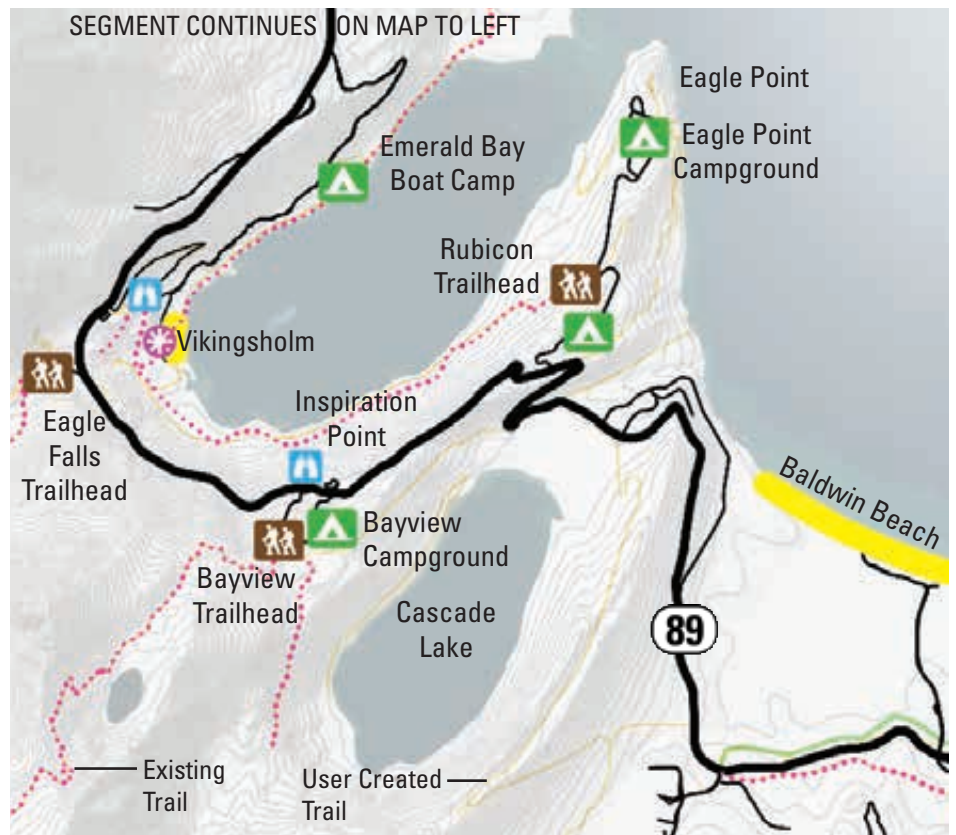
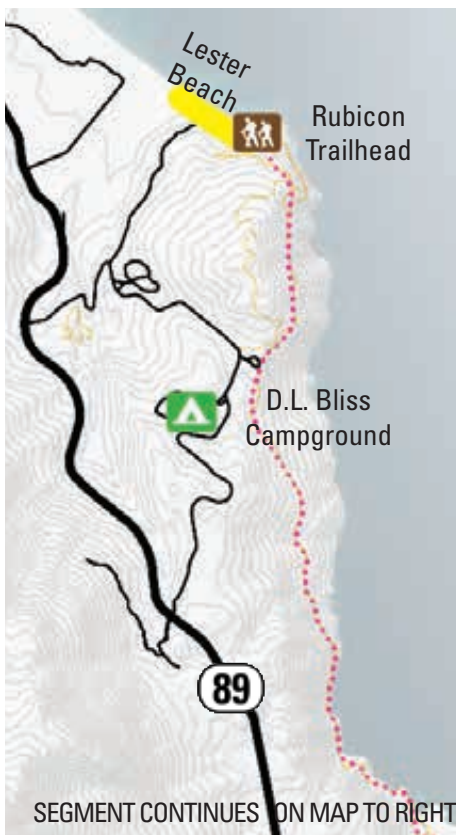


Figure 36: Recreation Areas | Emerald Bay Segment (Map to the left is the northern section and map to the right continues south through Emerald Bay)

Extending north from the Pope to Baldwin Segment, the two-lane highway climbs and winds its way through a series of switchbacks before it traverses the ridge line between Cascade Lake and Emerald Bay. The hairpin turns, narrow profile, steep adjacent slopes, magnificent views, and high levels of visitor activity slow motorists. The tight turns limit the size of vehicles that can reach Emerald Bay from the south. For example, large tour buses cannot navigate the turns and Caltrans designates the highway as a “KPRA (King Pin to Real Axle) Advisory” Route. Trucks with that have more than 30 feet between the king pin and rear axles are not advised. The steep roadway and curves also restricts the type of transit vehicles that can serve this segment.

Although the majority of the segment is comprised of public lands, there are areas of private lands around Cascade Lake and Cascade Road. Recreation residence tracts are on some USFS lands in Emerald Bay and in Spring Creek.

Visitor Activities

Public lands in this segment are primarily managed by the USFS, specifically the Lake Tahoe Basin Management Unit (LTBMU), and by California State Parks (CSP). USFS lands include facilities that support sightseeing, hiking, beach-going, boating, backpacking, and camping. Key recreation sites include:

- Eagle Point Campground
- Inspiration Point Vista
- Bayview Campground
- Bayview Trailhead (day hikes and wilderness access)
- Eagle Falls Trailhead (day hikes and wilderness access)
- Emerald Bay State Park
- Emerald Bay Boat Camp
- Vikingsholm
- Fannette Island
- D.L. Bliss State Park
- D.L. Bliss Campground
- Rubicon Trail
- Beach areas in Emerald Bay State Park and D.L. Bliss State Park

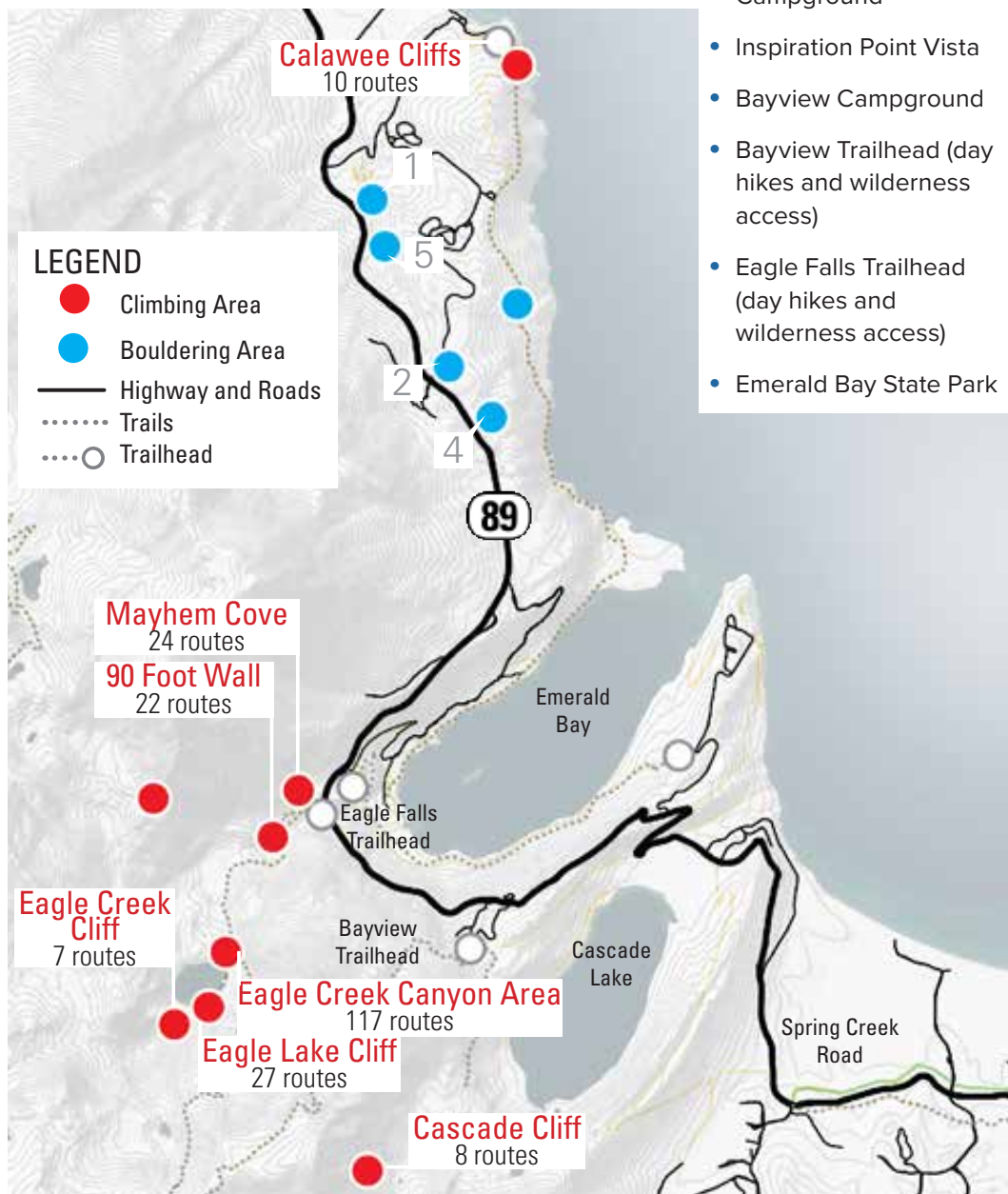


Figure 37: Rock Climbing Access | Emerald Bay Segment (Source: REI Mountain Project)

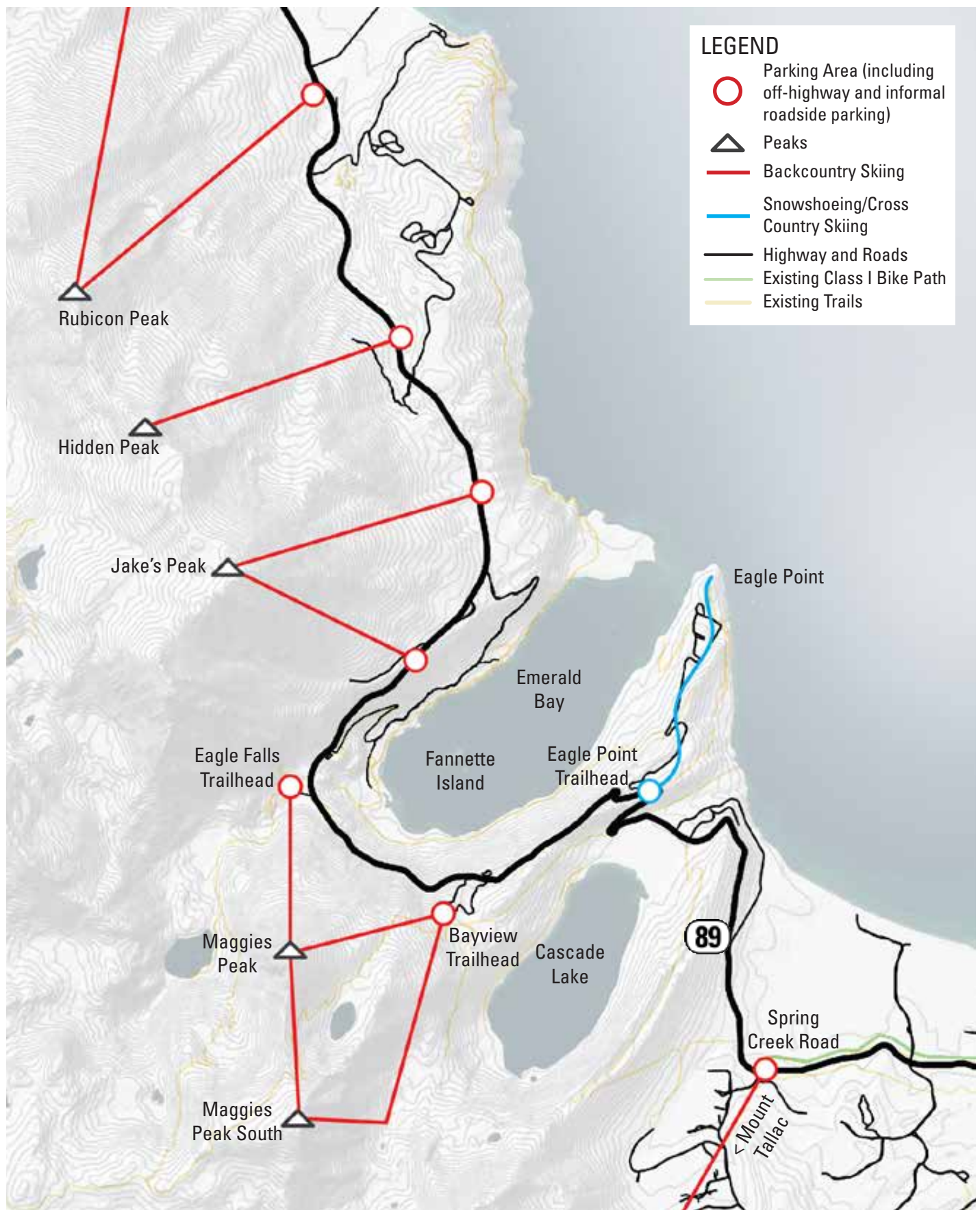


Figure 38: Winter Recreation Access | Emerald Bay Segment

VISITATION DATA

Emerald Bay has long been identified as the most photographed and visited location in Lake Tahoe. The Corridor Connection Plan hotspot data supports this theory and visitor, transportation, and parking data also reinforce its validity. USFS and State Parks attendance logs indicate the segment attracts over 750,000 visitors a year. As a qualifier, California State Park's record tracking was noted to be inconsistent and could be higher. The numbers also do not capture visitors to non-paid sites or people parking along the highway and walking to their destination.

The mix of residents to visitors and overnight visitors to day visitors is similar to overall corridor averages. Eighty percent of survey respondents identified themselves as visitors, and 93 percent of those visitors stayed at least one night in the Lake Tahoe area.

Lodging types were fairly consistent with overall survey results, with the exception of an increase in the number of people staying in a second home and at a motel/hotel. This indicates that transit programs originating from significant bed bases could reduce the number of people arriving by their personal vehicle. Consistent with other segments, the primary mode of travel to recreation sites was by personal vehicle.

Length of stay is an average of 2.9 to 3.0 hours, on par with the corridor average.

With regard to trip pattern, the majority of postcard respondents arrived from and returned to the south. Indicating the potential viability for an intercept transit program. Respondents who parked at Vikingsholm and the viaduct areas were most likely to be traveling through the segment. Respondents who parked at Eagle Falls trailhead and Vikingsholm had a higher percentage of people who arrived from and returned to the south, in comparison to other survey locations around Emerald Bay.

Emerald Bay provides a wide variety of potential recreation activities. A high percentage of summer visitors to the Emerald Bay indicated their primary recreation activity was day hiking (76 percent of intercept survey respondents and 60 percent of postcard survey respondents).

Comparing differences between recreation activities and the location of where the person parked or were surveyed, a few significant trends emerge. They include the following:

- 50 percent of people parking on the viaduct visit a beach as their primary activity (compared to 16 percent overall for the Emerald Bay area).

IMPLICATIONS FOR MANAGEMENT STRATEGIES

- The high percentage of overnight users and percentage of people returning from the direction they came from indicates that a mobility hub with a transit system can be effective for this segment.
- Day hiking and visiting a beach are significant recreation activities. Access to the segment's trailheads and beach access can be improved by providing transit.
- The volume of visitors, different land managers, and dispersed parking areas can confuse visitors who are not sure where they can park and for how long. Developing a consistent, system and providing docents to answer questions and direct users can improve the visitor experience.
- Overnight backpackers are parking in areas in and around Inspiration Point and Vikingsholm parking lots which are intended to serve as vista points and day use access. Providing for overnight backcountry users by designating select parking areas or developing operational approaches that meet access needs while not impacting day use parking areas can give greater clarity to the purpose and function to the segment's different parking areas.
- Over 50 percent of visitors are not planning their visit to Emerald Bay more than a day in advance. Visitor and travel information must be easy to find and understand.

Sources for Table 11: Visitation Statistics | Emerald Bay Segment:

- 1 TRPA 2014 and 2018 Travel Mode Surveys
- 2 LSC 2018 Postcard Survey (Pre-paid survey postcards were placed under windshield wipers of vehicles parked along the corridor in late July. Of the 2000 surveys distributed, 138 were returned.)
- 3 2018 SR 89 Corridor Intercept Survey
- 4 USFS and CSP Sierra District Visitation Logs
- 5 2018 SR 89 Online Recreation Survey
- 6 TRPA 2010 and 2014 Travel Mode Surveys

*Acronyms: IP (Inspiration Point)
EF (Eagle Falls)
Vik (Vikingsholm)
Via (Viaduct)

VISITATION STATISTICS EMERALD BAY SEGMENT								
	Emerald Bay Segment Information Only				Overall Corridor Comparison 2017 LTCCP		Overall Corridor Average	
Resident Versus Visitor								
Full-Time or Seasonal Resident	20% ¹				13%		19% ¹	
Visitor	80% ¹				87%		81% ¹	
Visitor Type								
Overnight Visitors	93% ¹				90%		89% ¹	
Day Visitors	7% ¹				10%		11% ¹	
Lodging Type								
Vacation Rental	21.9% ¹						21.2% ¹	
Second Home	15.8% ¹						7.4% ¹	
Friend's Residence	5.7% ¹						8.5% ¹	
Timeshare	6.8% ¹						8.3% ¹	
Motel/Hotel	44.8% ¹						36.9% ¹	
Campground	12.0% ¹						17.6% ¹	
Length of Stay at Recreation Site	3.0 hours ³ / 2.9 hours ²						3.6 ³ / 4.7 hours ²	
Number of People in Trip Party	3.3 people ³ / 3.6 people ²						3.6 people ³ / 3.7 people ²	
Travel Modes ⁶								
Car/Truck/Van	89%						86%	
Motorcycle/Moped	2%						2%	
Transit	2%						1%	
Ferry or Boat	0%						2%	
Bicycle	2%						5%	
Walk	5%						5%	
Trip Pattern ²	IP*	EF*	Vik*	Via*				
Arrive from and Return to South	76%	59%	52%	75%			52%	
Arrive from and Return to North	24%	37%	33%	13%			39%	
Traveling Through	0%	4%	15%	13%			9%	
Primary Recreation Activity								
Visit a Beach	16% (50% at Via) ² / 2% ³				82% ⁵		25% ² / 40% ³	
Day Hike	58% (47% at Via) ²⁰ / 76% ³				87% ⁵		46% ² / 31% ³	
Quick Stop to See the View	7% (18% at IP) ² / 10% ³				36% ⁵		5% ² / 5% ³	
Drive Around the Lake	1% (4% at Vik) ² / 2% ³				38% ⁵		4% ² / 1% ³	
Take a Bike Ride	0% ² / 0% ³				51% ⁵		1% ² / 2% ³	
Overnight Backpack Trip	8% (18% at IP) ² / 9% ³				34% ⁵		9% ² / 5% ³	
Camping	N/A / 0% ³						N/A / 15% ³	
Other	5% (13% at Via) ² / 2% ³						4% ² / 4% ³	
Number of Visitors at Paid Parking Areas (759,088 Total for Parking Areas Listed Below) ⁴								
Eagle Falls Trailhead (6/30/17-10/10/17) (day permit tabs)	32,724				Estimated 1.8 Million in 2014 for Entire Corridor			
Bayview Trailhead (2017)	10,696							
Bayview Campground (2017)	1,653							
D.L. Bliss State Park (2017)	117,466							
Emerald Bay State Park (2001)	596,549 (State Park reporting has not been consistent, number from highest attendance in the past 10 years is provided as a reference)							

Table 11: Visitation Statistics for the Emerald Bay Segment

- Only 38 percent of people parking at the viaduct are taking a day hike, in comparison to an average of 60 percent for the segment.
- 18 percent of people parking around the Inspiration Point area are making a quick stop to see the view, versus a segment average of 7 percent.
- 4 percent of people parking in or around the Vikingsholm lot are driving around the Lake, four times the segment average of 1 percent. It is noted that the postcard survey may not connect with people making a quick stop and driving around the lake. A visual survey of visitor parking patterns was also conducted and is described on pages 55 and 56.
- 18 percent of people parking in or around the Inspiration Point lot are taking an overnight backpack trip, twice the segment average of 9 percent.

The last statistic indicates a number of people park near or in the viewpoint parking area and stay for more than a day. The vista was intended to have a short turnover to allow people to stop, take in the view, and engage in an interpretive walk. The limited parking could be used by people staying for longer periods of time.

The variety of recreation activities creates different user needs and expectations. Strategies will need to consider the mix and determine how a consistent, easy-to-understand approach can be applied to meet the varying needs.

Of the different corridor segments, Emerald Bay visitors indicated a significant difference in their trip planning habits. Only 27 percent of respondents planned their trip more than a week or a month before arriving to Emerald Bay. In contrast in comparison to the corridor average, 34 percent more respondents planned their trip “yesterday” and 19 percent more planned their trip “Sometime Today”.

These trip planning statistics indicate people visiting Emerald Bay are making their plans more impulsively or with

less of a set itinerary. Communication and marketing is key to help those travelers identify transit opportunities and to more fully understand what alternatives they have for their trip planning.

Many of the visitors may be traveling to Emerald Bay because it is the most high profile location and they are not aware of alternatives or the challenges of finding parking. These visitors may also be less prepared to know where to park and how to access their desired recreation activity.

Winter Recreation Activities

Corridorwide, respondents to the 2018 online recreation activity survey for the SR 89 corridor, indicated their primary winter recreation activities include enjoying the views (22%), commuting/driving through (17%), and backcountry skiing (17%). Cross-tabulating responses from survey respondents who indicated they visit the Emerald Bay area, the primary winter activities are not significantly different than the corridorwide responses.

This indicates a desire for people to be able to visit Emerald Bay in the winter for backcountry access, sightseeing, and to commute or travel through. However, the roadway is often closed during the winter due to avalanches and the narrow road profile. Opportunities to manage the highway to increase the number of days it is open in the winter would improve the ability for many people to travel to and from their place of work and to participate in winter outdoor activities. USFS off-highway parking areas are closed in the winter and parking areas are generally not plowed. Winter and shoulder season recreation activities would be better supported by opening and plowing off-highway parking, when possible. LTBMU is working on addressing parking closures through a Trails Access Management Plan. Observational support of this takeaway is the image on page 49. It was taken only a few hours after the highway through Emerald Bay was reopened after being closed for snow removal and avalanche watch.

TRIP PLANNING STATISTICS EMERALD BAY SEGMENT ¹			
When Survey Respondents Planned their Trip to Emerald Bay Compared to the Corridorwide Average			
	Emerald Bay	Corridorwide	Percent Difference
A Month or More Before Today	20%	31%	-55%
More than a Week Ago, but Less than a Month Ago	7%	11%	-57%
In the Last Week	20%	20%	0%
Yesterday	32%	21%	34%
Sometime Today	21%	17%	19%

Table 12: Trip Planning Statistics for the Emerald Bay Segment

Source for Table 12: Trip Planning Statistics | Emerald Bay Segment:

1 2018 SR 89 Corridor Intercept Survey



Vikingsholm and Emerald Bay are visited by beach-goers, boaters, and groups on commercially-operated paddleboats.



Visitors make their way to see Eagle Falls on the lakeside of the highway even though no formal path exists.



Winter access to the corridor is popular for backcountry access and for those just wanting to enjoy the view. The above picture was taken just a few hours after the road was reopened after a snowstorm.



Eagle Falls Trailhead is popular with hikers, backpackers, and climbers.



Inspiration Point is a popular area for viewing Emerald Bay.



Eagle Falls Trailhead serves overnight and day use hikers.

TRAFFIC DELAY

Although traffic delays occur throughout the corridor, delays are particularly concentrated between the Vikingsholm lot and Baldwin Beach Road (in both directions). The delays were reported by the surveyor to be generated by pedestrian/bicycle crossing activity in the Inspiration Point area and Eagle Falls area. Parked vehicles partially blocking travel lanes also created delays (including the need for on-coming vehicles to take turns using the available roadway width) . Drivers also simply stopping in the travel lanes to take pictures which delayed traffic. Note that no construction was occurring on any of the travel time survey days.

Data points showed the following:

- The peak delay for northbound traffic occurred at 3:45 PM. The delay was for 29 minutes and occurred for northbound traffic between Eagle Point Camp Road and Inspiration Point.
- A similar delay for northbound traffic occurred at 9:30 AM between Inspiration Point and Lester Beach Road. The delay was 19 minutes.
- The peak delay for southbound traffic occurred at 10:30 AM between Vikingsholm and Inspiration Point. The delay was for 23 minutes.
- At the 10:30 AM hour southbound travelers also experienced an 8-minute delay between Inspiration Point and Eagle Point Camp Road and an 18-minute delay between Eagle Point Camp Road and Baldwin Beach Road. In total, southbound travelers at 10:30 AM on July 21, 2018 had 49 minutes of delay between D.L. Bliss and Baldwin Beach Road.

Congestion not only affects visitors, but it also impacts emergency responders. In the Emerald Bay, the average delay to emergency responders from June to August was 5 minutes. The maximum delay was 12 minutes.

IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Relocating roadside parking to off-highway locations and creating a no-shoulder parking zone can reduce vehicles turning around and searching for parking.
- Parking management strategies could reduce the queue for visitors coming to Emerald Bay recreation areas, such as:
 - Automated ticketing systems could allow visitors to park and then pay at a kiosk with a roving ranger to provide oversight and user information.
 - A reservation system with demand-based pricing for parking can help distribute arrival times and encourage turn over.

TRAFFIC DELAY STATISTICS EMERALD BAY SEGMENT				
Length of Delay (From Day with Highest Delays Recorded, July 21, 2018) ¹				
Segment	Northbound Traffic Peak Minutes of Delay	Northbound Traffic Peak Time of Delay	Southbound Traffic Peak Minutes of Delay	Southbound Traffic Peak Time of Delay
Baldwin Beach Road to Eagle Point Camp Road	5 minutes	1:30PM	18 minutes	10:30AM
Eagle Point Camp Road to Inspiration Point	29 minutes	3:45PM	18 minutes	9:16AM
Inspiration Point to Vikingsholm	8 minutes	9:30AM	23 minutes	10:30AM
Vikingsholm to Lester Beach Road	11 minutes	9:30AM	7 minutes	9:16AM
Corridor Delays ¹				
Peak Delay Recorded for Corridor Trip Runs July 21, 2018				
Northbound	30 to 38 Minutes of Peak Southbound Delay per Northbound Trip			
Southbound	18 to 75 Minutes of Peak Southbound Delay per Southbound Trip			
Average Delay Average for Three Weekends of Corridor Travel Time (July 21, Aug. 4, and Aug. 18, 2018; 22 Total Trips)				
Northbound	11 Minutes of Average Delay per Trip from West Way to Lester Beach Road			
Southbound	10 Minutes of Average Delay per Trip from Lester Beach Road to West Way			
Emergency Response Delays ²				
Increase to Response Times	Average	Median	Maximum	
Summer (June to August)	5 minutes	3 minutes	12 minutes	
Non-Summer (September to May)	3 minutes	3 minutes	7 minutes	

Table 13: Traffic Delay Statistics for the Emerald Bay Segment

Table 13: Traffic Delay Statistics for the Emerald Bay Segment

Sources Table 13: Traffic Delay Statistics | Emerald Bay Segment:

1 Length of Delay and Corridor Delays
LSC SR 89 Travel Time Survey Analysis

2 Emergency Response Delays

- Data provided by CalFire for 2012-2017
- Includes response times from Fire Departments and Law Enforcement
- Data categorized as response types FIRE, DEBRI/CAMPFIRE and FIRE, OTHER/MISC were omitted as response times reflected non-urgent events.
- LSC Transportation Consultants, Inc.

PARKING DATA

Roadside parking in the Emerald Bay segment is a critical issue for this segment. There are 221 off-highway parking spots that serve the popular visitor destination. The demand is shown in that more than twice the number of people park along the highway shoulder than can be accommodated by the off-highway parking areas. On a peak summer day, 488 cars were counted along the roadway shoulders and the parking lots were full.

Parking Data

LSC conducted parking counts along SR 89 in the Emerald Bay area in July and August of 2017 and 2018. The study area included on and off-street parking areas between Lester Beach Road (the D.L. Bliss State Park access road) on the north end of Emerald Bay and the first switchback south of Inspiration Point on the south end. The parking counts were conducted a total of eight times each, two weekdays and two Saturdays in each year, between 10:00 AM and 6:00 PM each day. These dates and time periods were selected to best capture the normal busy summer recreation activity which occurs in late July and early August. The counts were intentionally not conducted during the busy 4th of July weekend to avoid sampling on an abnormally high usage day.

The study revealed the following:

- The busiest time during the day on a peak Saturday was between 1:00 PM and 2:00 PM, when there were 687 cars parked in both on- and off-street areas.
- Motorists park illegally along the roadway shoulder and in off-highway parking lots. At the busiest time, 11:00 AM, there were 20 cars parked illegally in off-street lots.
- Most people want to park at shoulder parking locations close to their recreation destination, such as near Eagle Falls, Vikingsholm, and Inspiration Point. Along the viaduct there are no legal spaces. However, over the course of a peak Saturday the number of cars parked in that area averaged 32 with a maximum of 41.
- On average and on peak days, shoulder parking exceeds the number of “legal spaces” Inspiration Point through the viaduct. On average there are 185 percent more cars parked along the shoulders than legal parking spots in the area. On a peak day there are 227 percent more cars parked along the shoulders than legal parking spots.

IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Establishing a no parking zone to provide clarity and consistency in parking strategies would simplify enforcement and communications.
- Relocating an appropriate number of shoulder parked cars to new off-highway parking facilities and/or a mobility hub and providing transit allows for access while addressing the issues associated with shoulder parking.
- Using parking management strategies can distribute the arrival and departure times of visitors and increase turnover in parking lots.
- Relocating vehicles associated with overnight backcountry parking access to designated locations or developing other operational methods to restrict overnight parking in day use lots can allow parking to better serve the activities the spaces were designed for.



CHP tows illegally parked vehicles. But often another car will be ready to take their spot, even though it is illegal and they saw someone else being towed.

Sources Table 14: Parking Data Statistics | Emerald Bay Segment:

- 1 LSC 2017 Emerald Bay Parking Counts
- 2 LSC 2018 Parking Duration Observations
- 3 LSC 2018 Emerald Bay Parking Counts
- 4 LSC Assessment of USFS and CSP 2018 Parking Management Logs

Note: The capacity of unstriped shoulder parking was determined based on the length of shoulder with a minimum of 6.5 feet of width. This width is sufficient for a sufficient proportion of vehicles to park without overhanging the white “fog” line. A length of 22 feet per vehicle was used to define the number of spaces, based upon observed average spacing per parallel parked vehicle in the corridor. For shoulder locations where drivers typically angle park, a length of 10 feet per space was applied.

PARKING DATA STATISTICS EMERALD BAY SEGMENT								
Number of Existing Off-Highway Parking Spaces Available (221 total)								
Eagle Point Trailhead Parking Lot Spaces		39						
Inspiration Point Parking Lot Spaces		20						
Bayview Trailhead Parking Lot Spaces		37						
Eagle Falls Trailhead Parking Lot Spaces		32 off-highway, 30 organized next to the highway						
Vikingsholm Parking Lot Spaces		60						
D.L. Bliss Parking Lot Spaces		15 (+3 authorized vehicles only)						
Observed Shoulder Parking “Legal” Versus “Illegally” Parked Vehicles (July and August 2017) ¹								
		“Legal” Spaces	Number of Cars Parked on a Peak Day (Average/Peak)				Percent Parking Utilization (Ave/Peak)	
First Switchback to Inspiration Point		63	7/12				11%/19%	
Inspiration Point Zone		69	45/56				65%/81%	
Inspiration Point to “The Slide”		25	30/43				120%/172%	
“The Slide” to Eagle Falls		88	124/151				141%/172%	
Eagle Falls to Viaduct		28	75/85				268%/304%	
Viaduct		0	32/41				All illegally parked	
Viaduct to Boat-in Campground Access		114	38/58				33%/51%	
Boat-in Campground Access to Lester Beach		113	24/42				21%/37%	
Total (For All Shoulder Parking)		50	375/488				75%/98%	
Total 685 on and off-highway available spaces								
Time of Paid Parking Lot Closures (Summer 2018) ⁴								
	Time Entry Queue Starts		Time Parking is Full		Time Turn Over Starts		Average Check-in Time	
Vikingsholm Parking Lot	9:24AM		9:36AM		4:04PM		1.2 Minutes	
D.L. Bliss Parking Lot	9:48AM		10:13AM		3:33PM		2.5 Minutes	
Parking Accumulation Times (Saturday, July 28, 2018) ³								
	10:00AM	11:00AM	12:00PM	1:00PM	2:00PM	3:00PM	4:00PM	5:00PM
Total Number of Cars	451	607	677	687	646	576	544	466
Cars in Parking Lots	168	170	175	169	166	165	160	158
Cars Parked on Highway Shoulder	283	437	502	518	480	411	384	308
“Legal” Shoulder Parking Accumulation Times on Saturday July 29, 2017 ¹								
	Time “Legal” Parking is 100% Full				Time “Legal” Parking Returns to <80% Capacity			
Inspiration Point Shoulder Parking Zone	Filled to 71% capacity by noon				Was 60% full on average throughout the day			
Inspiration Point to “The Slide”	Before 10:00AM				4:00PM			
“The Slide” to Eagle Falls	Before 10:00AM				5:00PM			
Eagle Falls to Viaduct	Before 10:00AM				Did not dip below 161% utilization			
Observed Parking Duration (August 2018) ²								
	0-5 min	5-15 min	15-30 min	30-60 min	60-90 min	+90 min		
Inspiration Point Shoulder Parking Zone	4%	38%	32%	20%	4%	4%		
Inspiration Point Parking Lot	30%	23%	18%	27%	0%	2%		
Eagle Falls Pull-off on Northbound Lane	24%	10%	2%	29%	29%	7%		
Eagle Falls Parking Lots	25%	5%	18%	15%	12%	26%		
Vikingsholm Shoulder Parking	22%	17%	8%	17%	14%	22%		
Vikingsholm Parking Lot	21%	15%	7%	9%	7%	41%		

Table 14: Parking Data Statistics for the Emerald Bay Segment

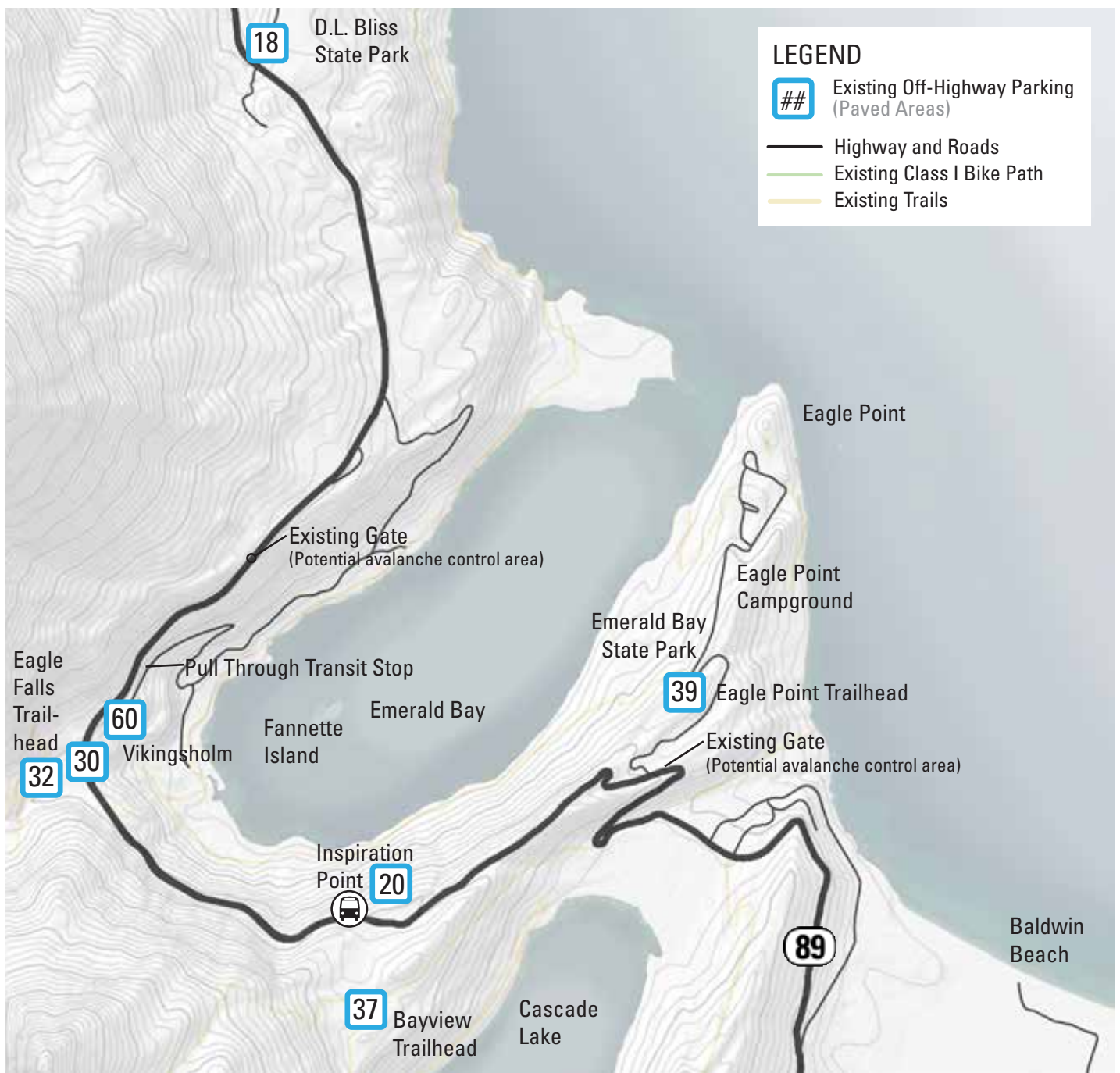


Figure 39: Off-Highway Parking Locations and Numbers | Emerald Bay Segment

Parking Accumulation and Duration

Accumulation

State Park and USFS management logs reflect that desirable parking lots typically fill throughout busy summer days between approximately 9:00 AM and 4:00 PM at Vikingsholm and D.L. Bliss. This creates congestion as drivers wait for available spaces.

The accumulation of shoulder parking is consistent with the management logs. At 10:00 AM the number of cars parked along the shoulder is almost twice the capacity of the parking lots. And by 11:00 AM the number is more than 250 percent higher. The total number of shoulder parked cars peaks at 1:00 PM and slowly declines for the remainder of the day.



The Vikingsholm parking lot fills around 9:30 AM on Saturdays during the summer.

Duration

Parking duration and turnover was captured through the 2018 Intercept Survey and the 2018 Windshield Postcard Survey. The different duration averages for each data set are as follows:

- **2018 Intercept Survey:** 3.9 hours
- **2018 Postcard Survey:** 2.9 hours

The visitor survey data above does not capture visitors who only stop for a short period, such as those taking a quick picture and not leaving their vehicle. To provide information about this activity period, parking turnover was directly monitored in the Emerald Bay area over two weekends in August.

Observation points were as follows:

- **Eagle Falls Parking Lots:** The USFS pay lot, the head-in shoulder parking along the west side of SR 89 and the shoulder parking on the east side of SR 89.
- **Shoulder Parking South of Eagle Falls:** The pullout area approximately 700 feet south of the Eagle Falls lot driveway.
- **Vikingsholm Lot:** The State Park lot and access driveway.
- **Vikingsholm – Shoulder Parking:** Shoulder parking on both sides of SR 89 adjacent to the State Park lot and to approximately 250 to the west of the lot driveway.
- **Inspiration Point Lot:** The USFS lot on the north side of SR 89.
- **Inspiration Point – Shoulder Parking:** Shoulder parking on both sides of SR 89 from the Inspiration Point Lot Driveway to the start of the guardrail to the west.

Overall, observed parking duration in Emerald Bay varied dramatically. This diversity indicates the need for a range of parking and transit management strategies. Key data points of the parking durations were as follows:

Eagle Falls Parking Lots

- 25 percent of vehicles were observed to be parked for 5 minutes or less
- 6 percent parked in the area between 5 and 15 minutes
- 26 percent parked for at least 90 minutes or more

Shoulder Parking South of Eagle Falls

- 23 percent parked for less than 5 minutes
- 57 percent parked for 30 to 90 minutes

Inspiration Point Parking Lot

- 53 percent parked for 15 minutes or less
- 2 percent parked for more than 60 minutes

Inspiration Point Shoulder Parking

- 4 percent were parked for less than 5 minutes
- 70 percent parked between 5 and 30 minutes
- 8 percent parked for more than 60 minutes

Vikingsholm Parking Lot

- 20 percent parked for 5 minutes or less
- 41 percent parked for over 90 minutes or more

Vikingsholm - Shoulder Parking

- 22 percent parked for less than 5 minutes
- 22 percent parked for more than 90 minutes

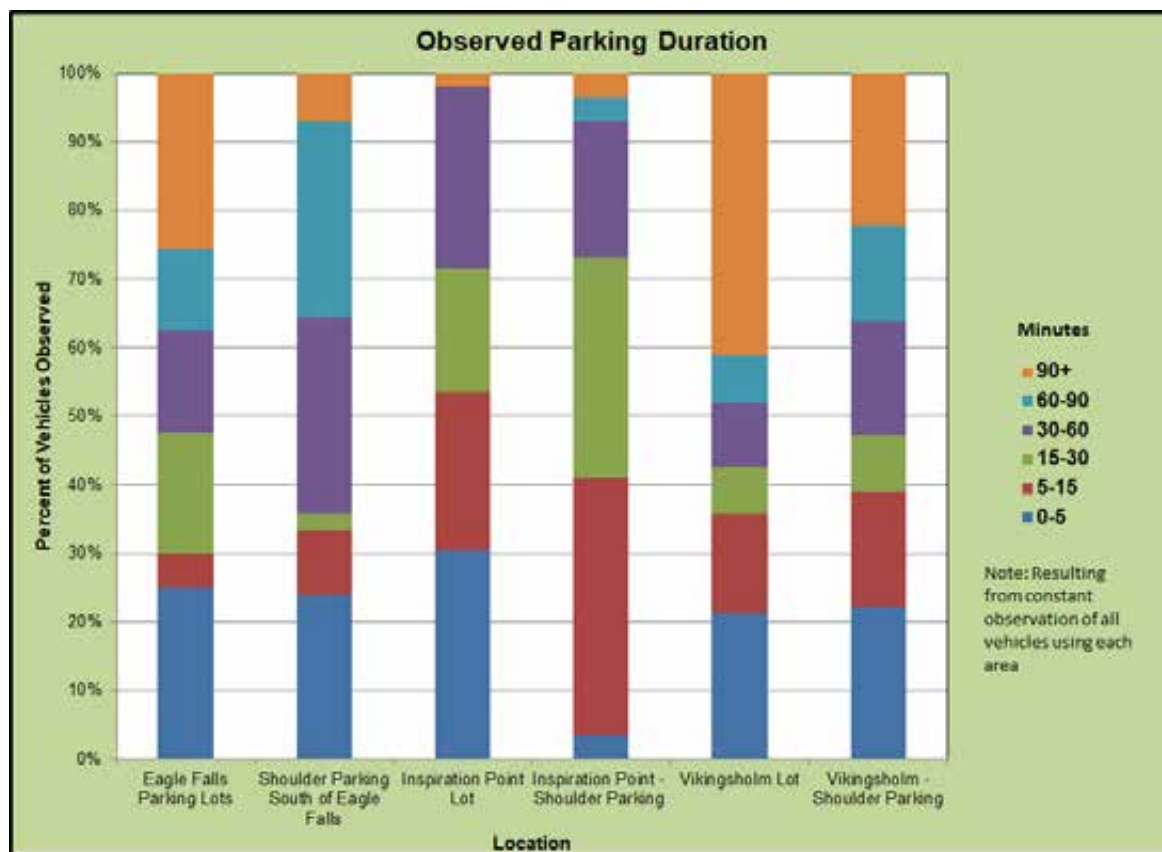
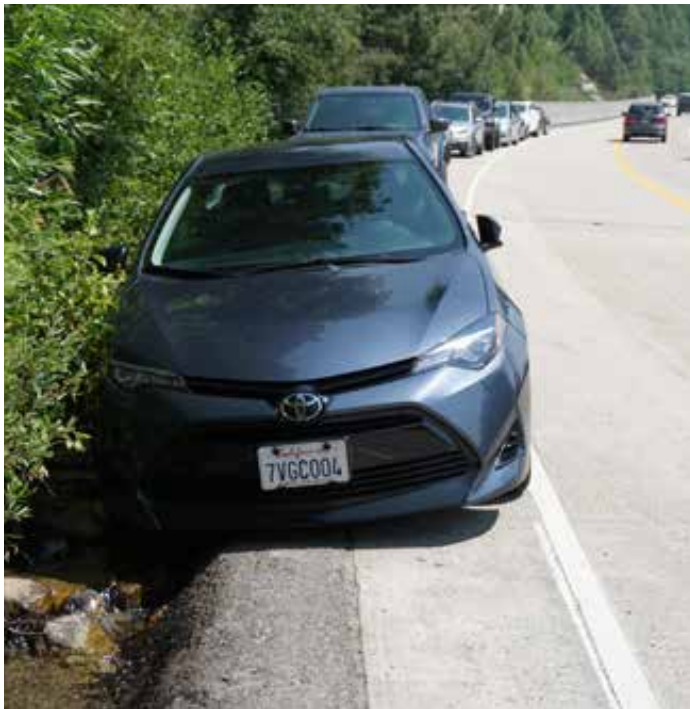


Figure 40: Observed Parking Duration in Emerald Bay



Vehicles park along the viaduct and in stormwater improvement projects.



Motorists illegally park in no parking areas and block bus stops.



Cars park over the white fog line and pedestrians regularly walk in the travel lanes to get to their destination.

TRANSIT FACILITIES

Transit services to Emerald Bay have been reduced over the past few years due to funding constraints. The last service year was 2018. The route has been canceled due to lack of funding and low ridership. Transit stops either have been previously located at Eagle Point Campground, Inspiration Point, Eagle Falls, Vikingsholm, and D.L. Bliss. As discussed in the corridorwide transit discussion, ridership was highest with increased frequency.

Roadside parking creates issues with transit stops. Motorists often illegally park in transit locations, forcing the bus to stop in the roadway or block an intersection or driveway.

Awareness of transit facilities and improved traveler communications can also be improved. Seventy-four percent of respondents to the 2018 Intercept Survey conducted in the corridor did not know there was transit. Factors that were extremely important for future use of transit to the SR 89 corridor included the amount of time to wait for the shuttle to pick them up (42% of respondents) and knowing in advance that the parking is full at the location (47% of respondents).

IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Addressing roadway design issues can enhance transit access. The Short-Range Transit Plan identifies many of these issues and recommendations for improvement, including the need for improved technology, guard rails, constraints created by hair pin turns, and required bus sizes.
- Designing transit stops so buses can pull off the highway to load and unload passengers reduces traffic flow impacts and addresses accessibility requirements.
- Managing congestion can make transit a desirable option for visitors, a transit bypass route is likely not a feasible alternative.
- Improving awareness and frequency of transit can increase ridership.
- Providing infrastructure for improved technology and access to communications is an important component for successful, real-time transit and parking management programs. For the Emerald Bay Segment, this could include adding broadband access including cellular infrastructure.



The bus stop at Eagle Falls Trailhead is regularly blocked by vehicles parked on the shoulder. The bus loads and unloads in the intersection.

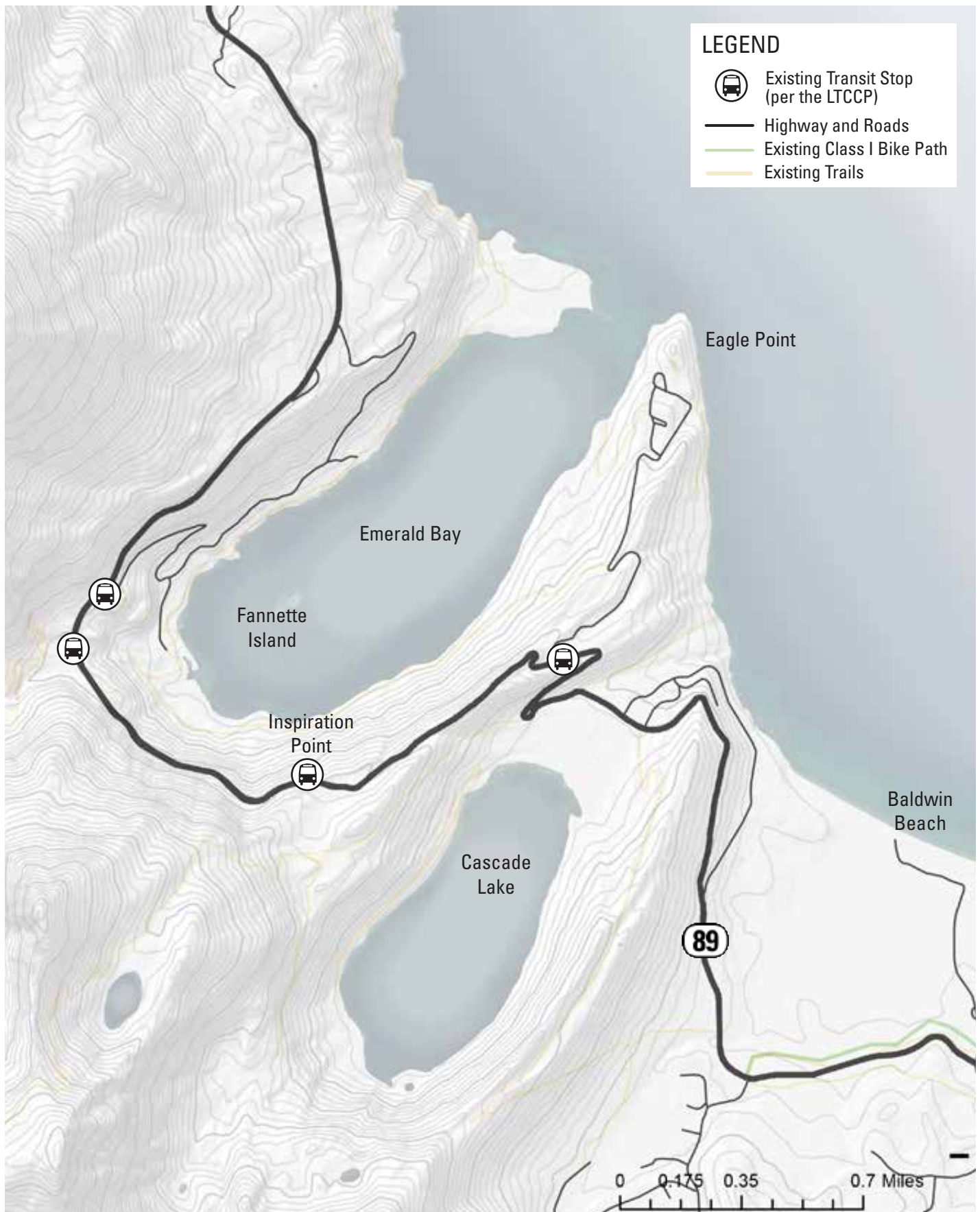


Figure 41: 2018 Transit Stop Locations | Emerald Bay Segment

PEDESTRIAN AND BICYCLE FACILITIES

Pedestrian facilities such as sidewalks and connector paths are located at some of the recreation destinations in Emerald Bay. Inspiration Point has an interpretive walkway at the vista point. The high volume of visitors can fill the walkways in the summer as people wait to take their turn for a picture or to read the interpretive panel.

Eagle Falls trailhead has improved walkways and boardwalks to connect parking areas to the natural surface trails leading to the backcountry. The boardwalk connecting SR 89 to the kiosk and trailhead winds through a riparian zone. It is an attractive path, but pedestrians still walk in the roadway because it is not sized to accommodate the volume of people in the area.

A natural surface path connects the Vikingsholm parking area to an overlook to the south. The path is separated from the highway, but sections should be evaluated for ease of mobility and accessibility.

In the summer people are regularly seen walking in the roadway or just to the right of the fog line. Visitors park along the shoulder and then walk to their destination. This situation occurs around most of Emerald Bay, including the viaduct. The viaduct does not allow for shoulder parking, yet motorists park and then walk down the highway to Vikingsholm vista point.

LSC conducted pedestrian counts to document the number of people walking on the viaduct. On a peak summer day in 2017, up to 67 people were seen in one hour along the narrow viaduct.

IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Developing a shared-use path that connects to the Pope-Baldwin Bicycle Trail to the south and the Tahoe Trail/West Shore Trail to the north would encourage biking to Emerald Bay.
- Developing a shared-use path near the highway corridor would provide a place off the roadway for pedestrians to walk in Emerald Bay.
- Minimizing at-grade trail crossings reduces conflicts.
- Prioritizing the use of public lands for future alternative trail alignments can increase trail feasibility.
- Utilizing shared-use path systems to provide visitor access to recreation areas can reduce vehicular use.
- Utilizing utility corridors and previous road and trail corridors reduces new disturbance and provides opportunities to underground utilities which can reduce wildfire risk.



Inspiration Point is so popular, people queue to take their turn for a picture or to read the interpretive panels.



Pedestrians walking along cars parked on the viaduct have little to no shoulder area to walk out of the travel lane.



A dirt trail provides one off-highway pedestrian connection from Vikingsholm to a viewpoint south of the parking lot.

PEDESTRIAN STATISTICS | EMERALD BAY SEGMENT¹

Pedestrians Observed Walking on the Viaduct (No Sidewalks or Shoulder Available) (Peak/Average) in 2017

	10:00AM	11:00AM	12:00PM	1:00PM	2:00PM	3:00PM	4:00PM	5:00PM
Peak Number of Pedestrians	27	39	67	48	54	31	28	22
Average Number of Pedestrians	23	21	31	24	25	19	15	11

Table 15: Pedestrian Statistics for the Emerald Bay Segment

Source:

1 LSC 2017 Emerald Bay Pedestrian Counts



The boardwalk pathway at Eagle Falls Trailhead is often not used because of the volumes of visitors to the area.



Pedestrians hug the viaduct's guardrail and walk in a 12- to 18-inch shoulder as they walk from their car to their destination.



Pedestrians often walk in the travel lane, with traffic, to access their recreation destination.

The Pope-Baldwin Bicycle Trail ends at Spring Creek Road. No other designated bike facilities exist. Road cyclists ride in the highway and can be seen working their way up the switchbacks in the summer. In many locations near Emerald Bay, the narrow roadway and lack of shoulders cause cyclists to share travel lanes with vehicles. Motorists slow and often need to shift into another lane to share the road with the cyclist.

Previous studies have considered options for a shared use path alignment through the Emerald Bay segment but a preferred or final alignment has not been identified. Figures 42-47 show many of the elements for consideration when identifying potential trail corridors and alignments. A compilation map (Resource Overlay Analysis) diagrams significant opportunities and constraints. The mapped elements include:

- Slope
- Ownership
- Existing trails
- User trails
- Utility corridors
- Natural resources
- Osprey nests and buffer
- Bald Eagle nest and buffer
- Northern Goshawk protected activity centers (PAC)
- Stream environment zones

Additional features, such as cultural resources are not mapped. Coordination should occur to understand and identify potential constraints due to cultural resources. Detailed engineering and geotech studies will be conducted in future phases of trail evaluation and development.



Road cyclists ride along the highway's narrow shoulders.



Road cyclists make their way through the hairpin turns as they climb to Emerald Bay.



Inspiration Point and other viewpoints offer a place for a break and a view for both pedestrians and cyclists.

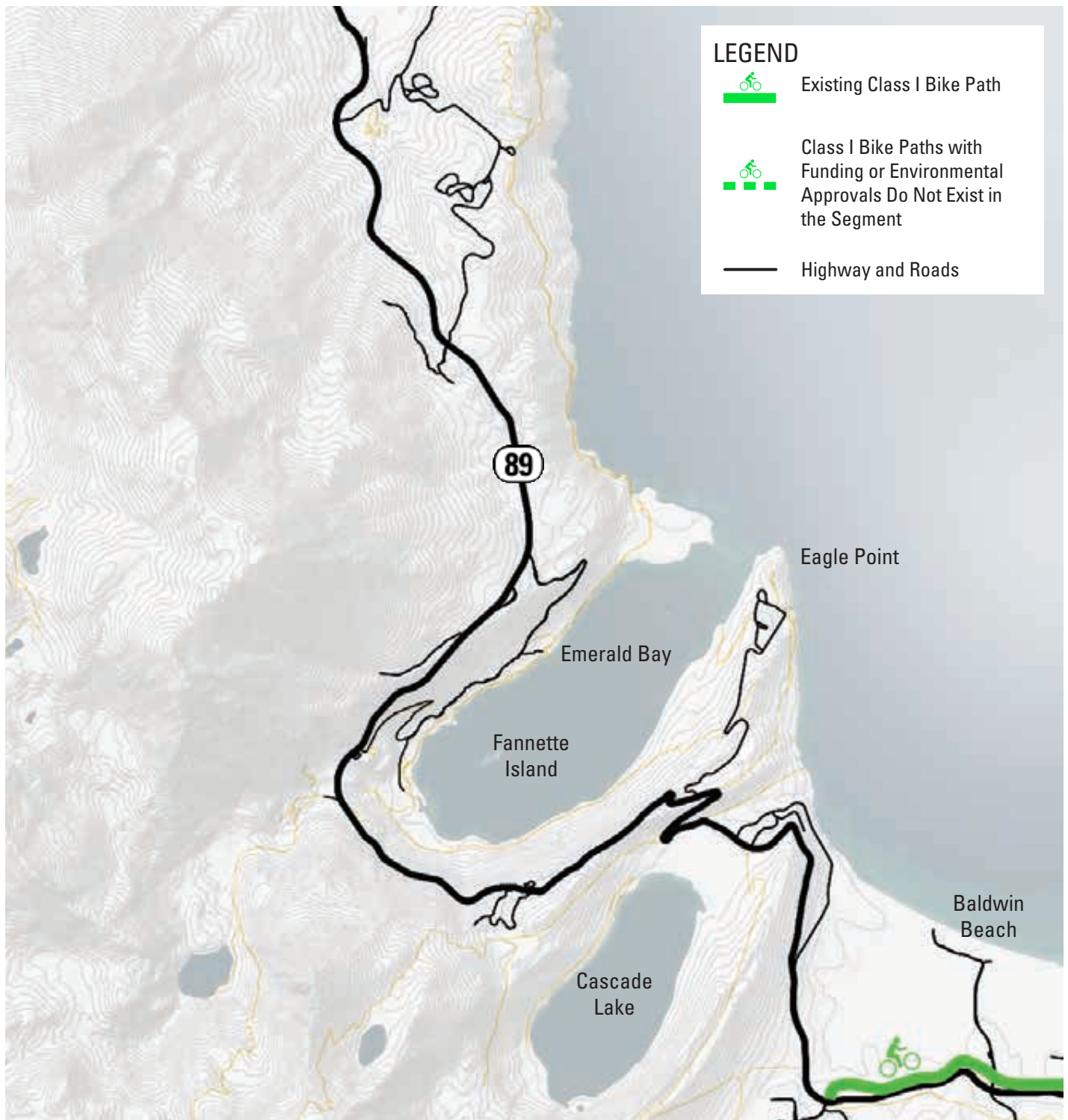


Figure 42: Existing and Funded Shared-Use Paths | Emerald Bay Segment

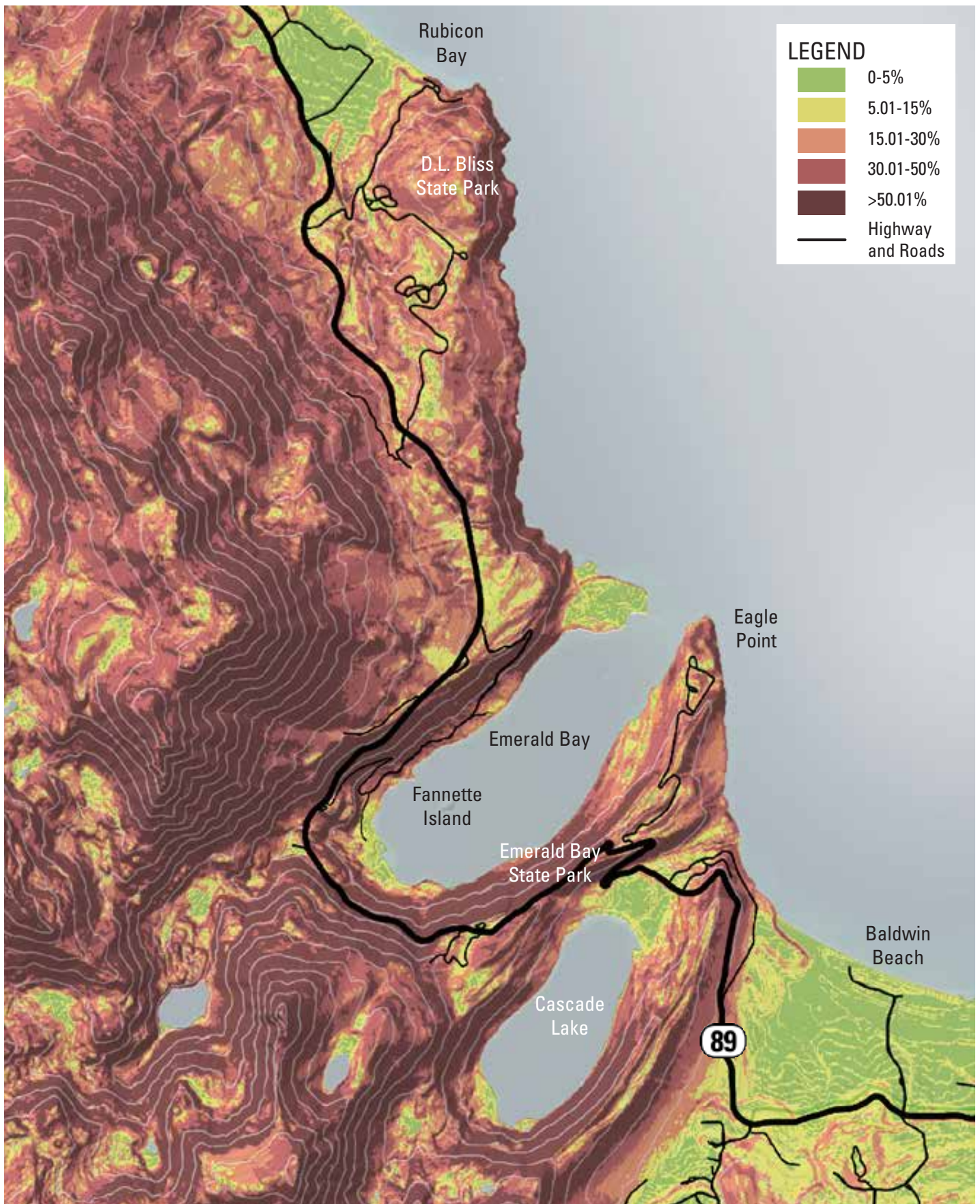


Figure 43: Slope Analysis | Emerald Bay Segment

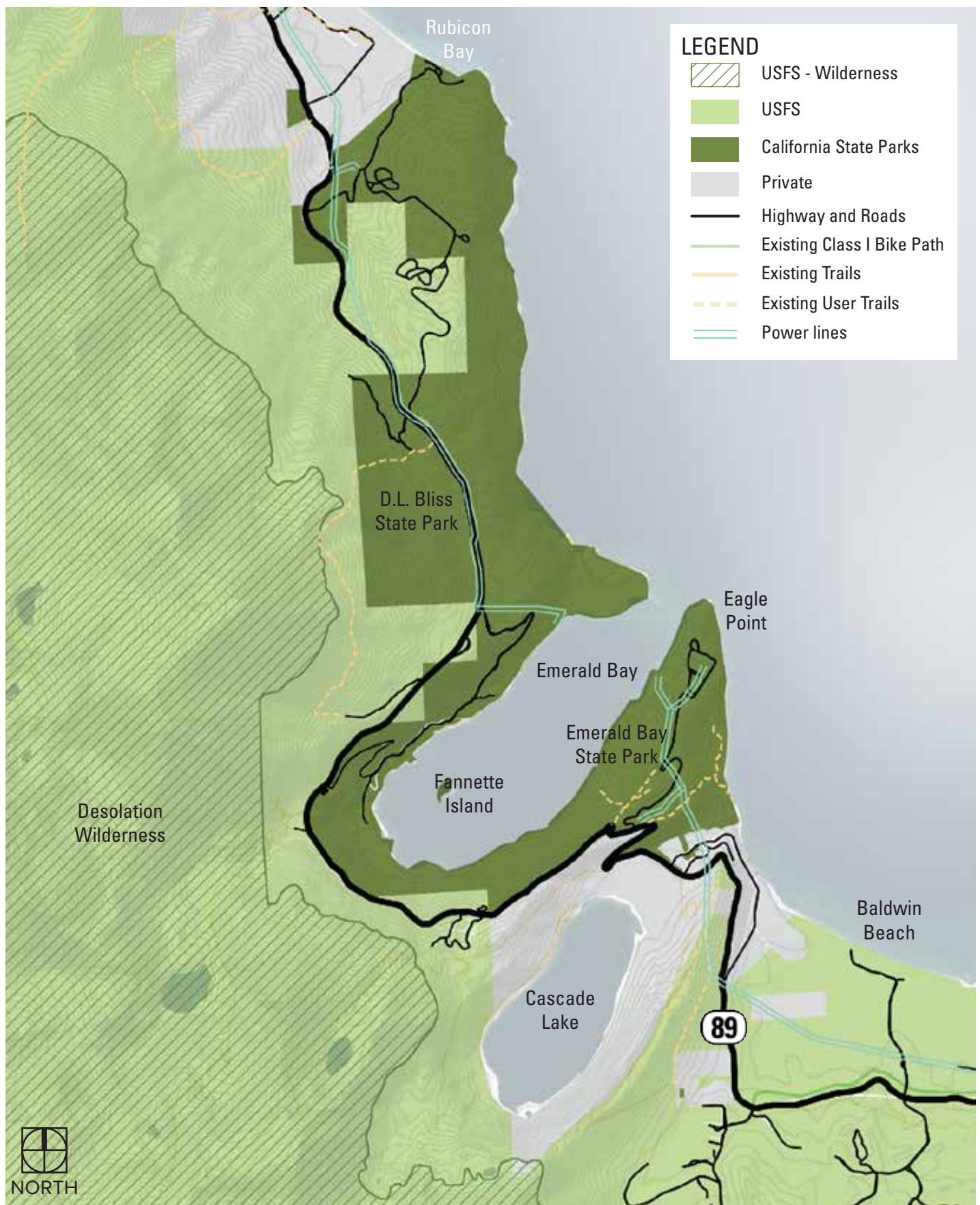


Figure 44: Ownership, User Trails, and Utility Corridors | Emerald Bay Segment

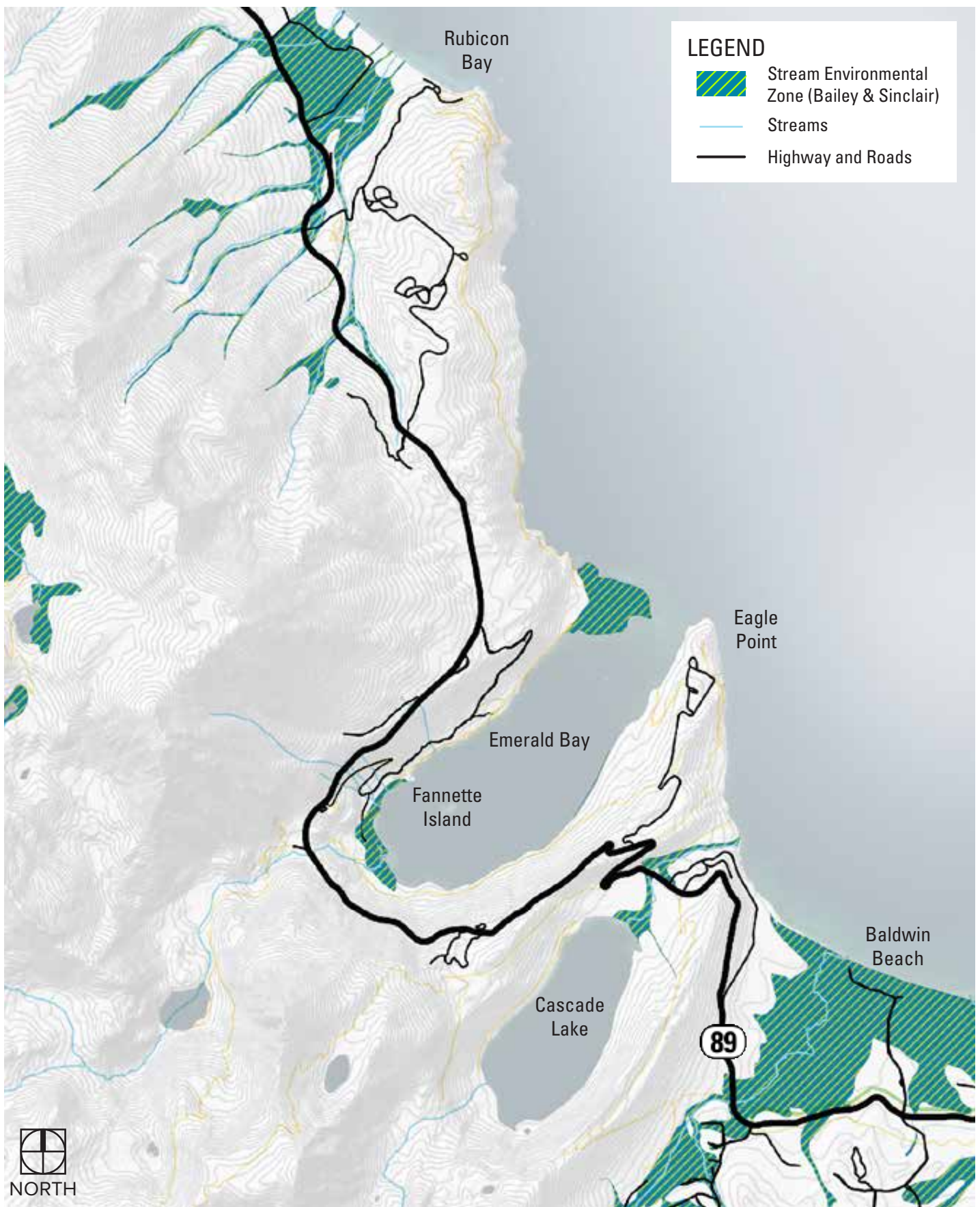


Figure 45: Stream Environment Zones and Hydrology | Emerald Bay Segment

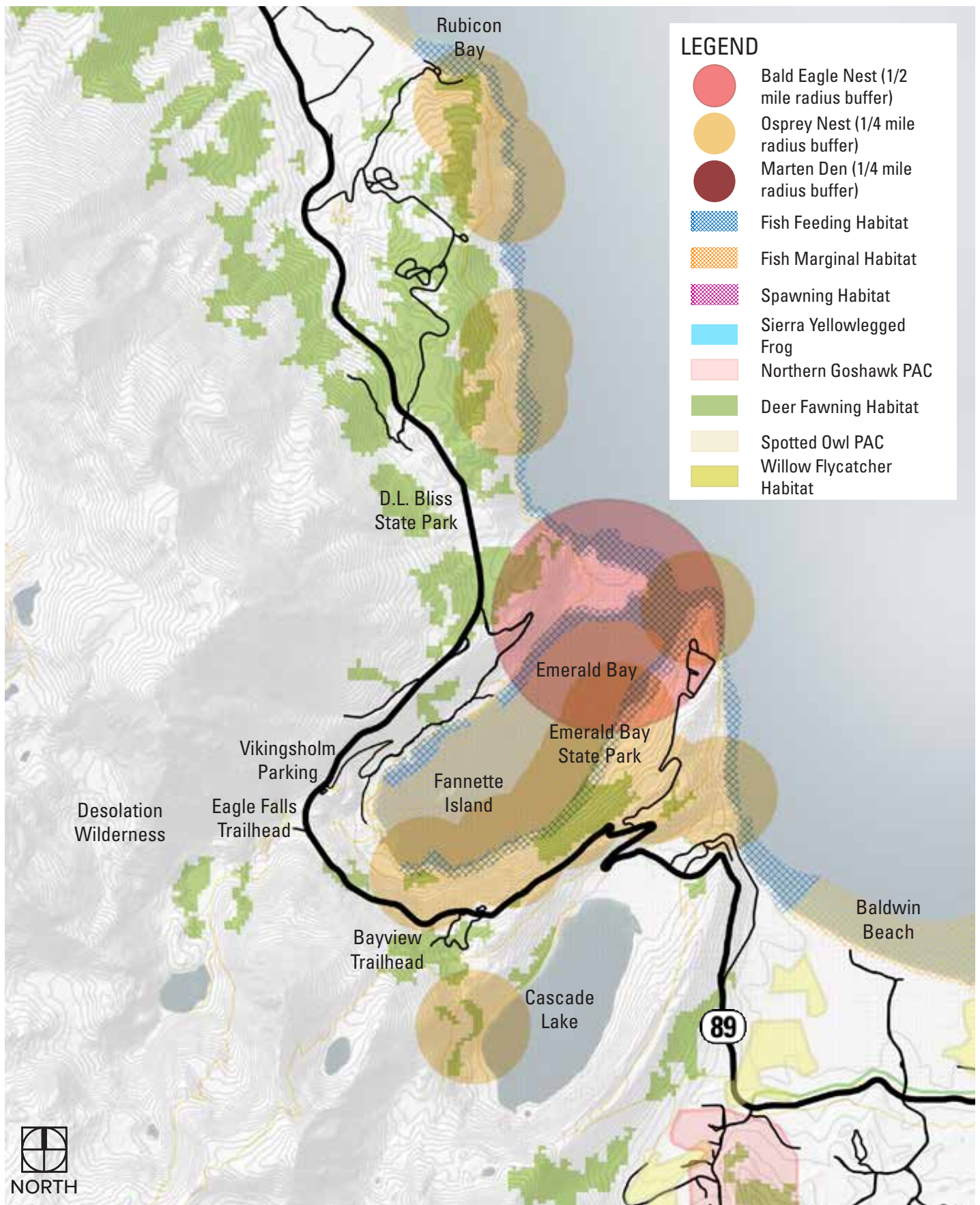


Figure 46: Natural Resources | Emerald Bay Segment

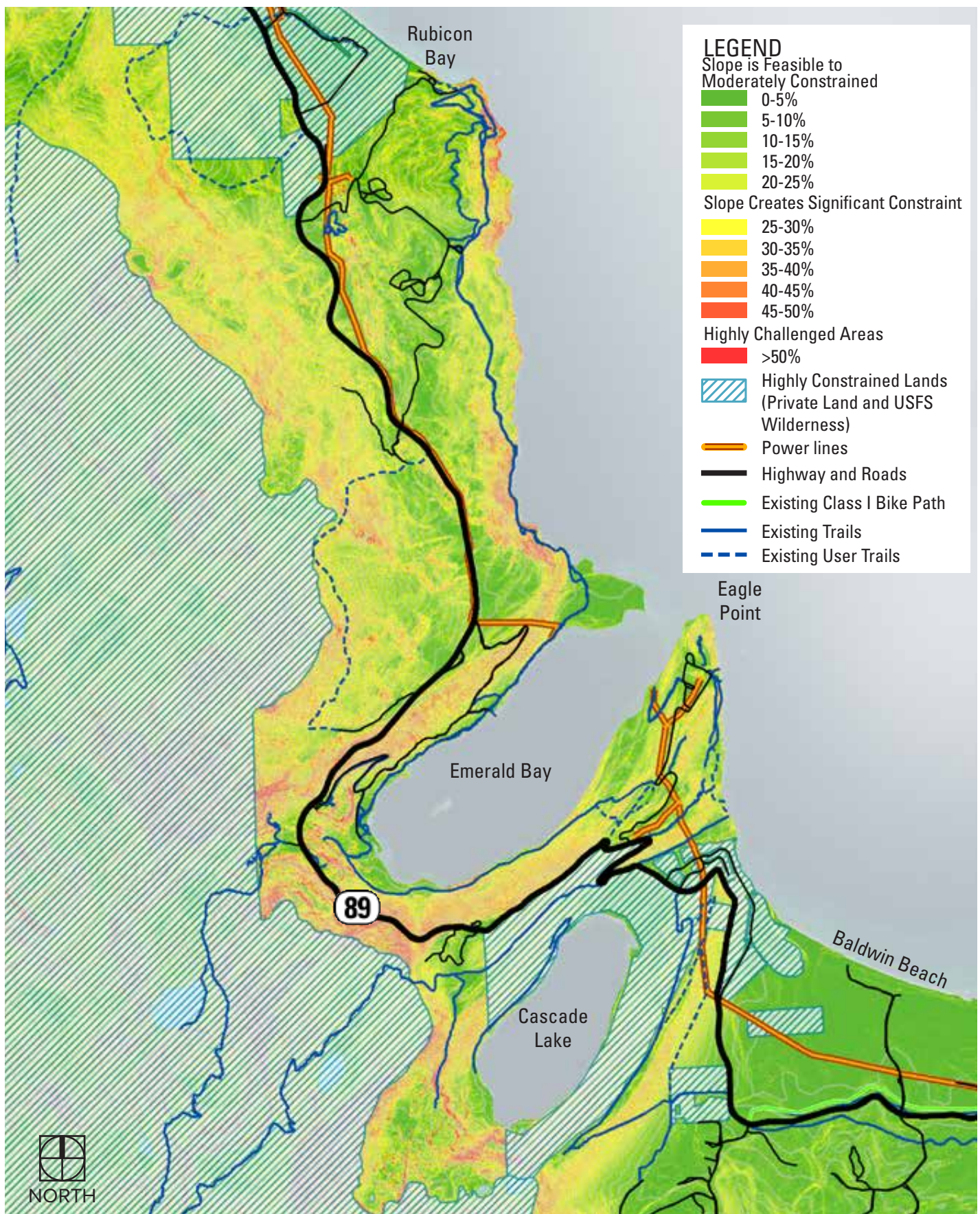


Figure 47: Resource Overlay Analysis | Emerald Bay Segment

IMPLICATIONS FOR THE TAHOE TRAIL IN THE EMERALD BAY SEGMENT

- The steep terrain and avalanche chutes around Emerald Bay mean a future trail alignment will require creative engineering solutions.
- Private ownership around Cascade Lake is a constraint. However, the majority of the Emerald Bay segment consists of public lands where a trail alignment could be feasible.
- An old roadbed alignment is located near the Eagle Point Campground road. South of the roadway, the disturbed area could provide a potential connection from Eagle Point Campground area to Bayview Campground and Inspiration Point or it could be used to reroute a portion of the highway and reduce one of the highway's hairpin turns.
- Locating a shared-use path near the roadway around Emerald Bay would provide a place for people to walk and bike that is off the highway and out of traffic.
- The terrain of public lands north of Emerald Bay is generally less steep. A shared-use path alignment could be accommodated either through Forest Service lands to the west of SR 89, through D.L. Bliss State Park to the east of SR 89, or within the vicinity of the highway. The pathway should be set back from the roadway for user comfort and a better recreational experience.
- If the pathway was routed through D.L. Bliss it should be designed to also enhance pedestrian and cyclist movement through the State Park and to the recreation destinations.
- Under-grounding electric utilities can reduce wildfire risk. Co-locating utilities with a trail corridor allows for improved maintenance access and leverages funding dollars. Adding cellular will improve communications for responding to wildfire and other emergencies.



The road corridor around Emerald Bay has constraints for trail development, but innovative solutions are possible.



The Rubicon Trail works its way around Emerald Bay. The path is narrow and aligned on a steep slope with known Osprey nests. Widening could create scenic and natural resource impacts.



North of Emerald Bay, gentler terrain offers greater opportunities for potential trail alignments



RUBICON BAY SEGMENT

RUBICON BAY SEGMENT

The Rubicon Bay Segment extends from D.L. Bliss State Park to just south of Meeks Bay. It includes the longest lakefront section of contiguous privately-owned residential lands within the corridor.

Defining Elements

Rubicon Bay, also known as Tahoe's Gold Coast, is home to lakefront and mountainside residential properties. The highway travels north from D.L. Bliss State Park toward Meeks Bay. Private lands border the Caltrans right-of-way for the majority of the segment. Forest Service and California Tahoe Conservancy lands are interspersed in the neighborhoods and USFS lands are located upland of the residential areas.

The highway and adjacent lands have relatively gentle grades around the Four Ring Road properties. The road grades steepen as it enters Rubicon Bay and creates a bench between the lakefront properties to the east and upland properties to the west. The terrain slopes away from the highway to the east and the west. Therefore, neighborhood roads intersecting with SR 89 typically have grades steeper than 5 percent.

There are few informal pull-offs and shoulder parking areas throughout this segment. This is due in large part to the narrow shoulders, adjacent private lands that slope away from the highway, and the lack of direct access to public recreation sites.

Visitor Activities

This segment is characterized by the high percentage of private lands bordering the highway. There is no public beach access. Upland trails are accessible through the neighborhoods, but no formal trails or trailhead facilities are present. Trails are primarily intended to be accessed by walking or biking from the local neighborhoods.

KEY ISSUES

The CMP seeks to minimize visitor impacts to residential areas while providing dedicated active transportation facilities to allow people to walk or bike to recreation destinations in the adjacent Meeks Bay and Emerald Bay segments. Key issues to be addressed include:

- Lack of a shared-use path to connect people to recreation areas by an off-highway bike path.
- Lack of broadband.



Figure 48: Rubicon Bay Segment



Figure 49: Ownership | Rubicon Bay Segment



Figure 50: Land Use | Rubicon Bay Segment

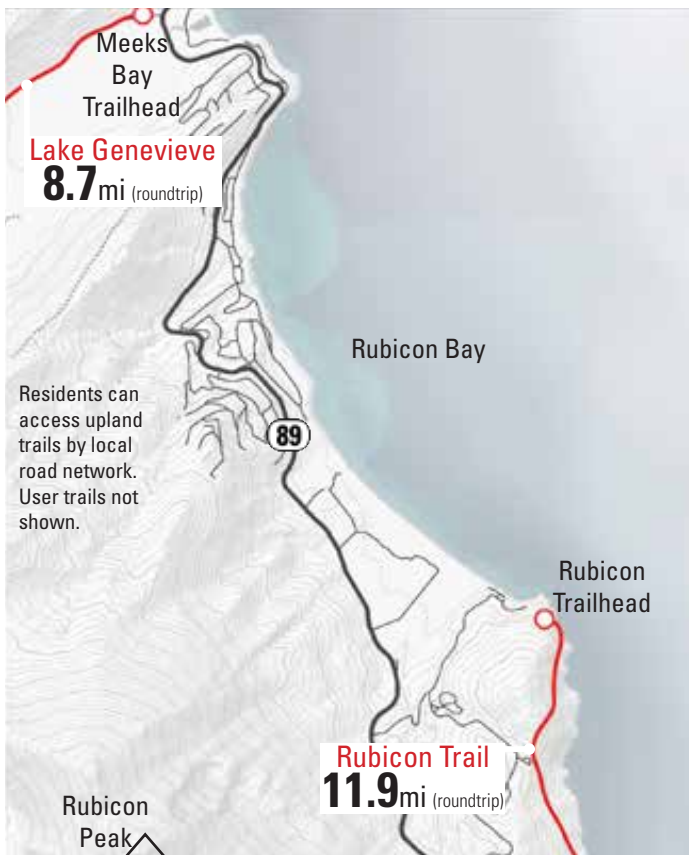


Figure 51: Trail Access | Rubicon Bay Segment

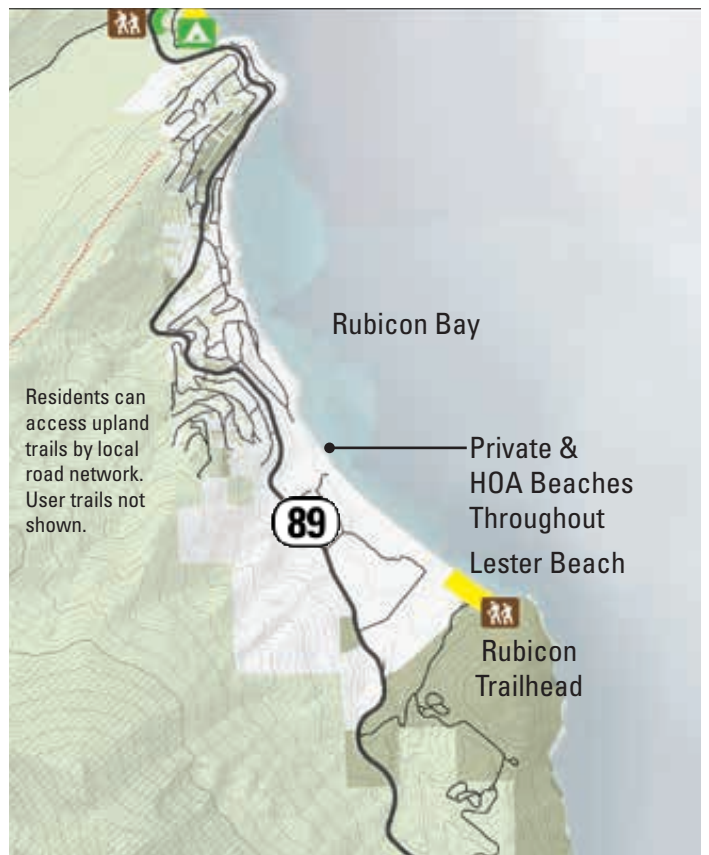


Figure 52: Recreation Areas | Rubicon Bay Segment

LAND USE AND OWNERSHIP DATA

There are no publicly accessible recreation areas in the Rubicon Bay segment. Therefore, visitation data is not included. Residents, second homeowners, and vacation rental users may use the beach facilities offered by the different home owner associations in the segment or they may visit other recreation areas not in the segment.

Overall, the SR 89 corridor has a relatively low percentage of residential units and land that is zoned for residential use. The Rubicon Bay segment has the highest concentration of residences in the corridor.

IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Working with residents and property owners to understand and address transportation needs can enhance planning and implementation strategies.
- Working with residents, property owners, and land managers could help build ownership and support for the Tahoe Trail.

LAND USE AND OWNERSHIP STATISTICS RUBICON BAY SEGMENT		
	ESRI Business Analyst Census Data, April 2019, ACS 2012-2016 Estimate and Community Profile	Overall Corridor Comparison 2017 LTCCP
Social Demographics		
Resident Population	54	1,015
Median Age	57.2	45.4
Median Household Income	\$109,954	\$42,500
Housing/Land Use		
Number of Residential Units	561	2,784
Resident Population/Units Ratio	0.10:1	0.36:1
% Single Family Units	100%	93.5%
% Multi-Family Less than 20 du/bldg	0%	4.3%
% Multi-Family 20+ du/bldg	0%	2.0%
% Seasonal Resident Units	92.3% vacant (97.8% of the vacant units are identified as being for seasonal/ recreational/occasional use)	80.0%
% Owner Occupied	5.9%	49.7%
% Renter Occupied	1.8%	50.3%
Median Value (Owner Occupied)	\$660,714	\$546,900

Table 16: Land Use and Ownership Statistics for the Rubicon Bay Segment

TRANSIT FACILITIES

There are no transit stops in the Rubicon Bay Segment. Transit routes may connect to destinations north and south, but they do not stop in the Rubicon Bay Segment.

BICYCLE AND PEDESTRIAN FACILITIES

There are no bike lanes or Class I bike paths in the Rubicon Bay segment. Previous studies have considered options for a shared use path alignment through the segment but a preferred or final alignment has not been identified.

Figures 54-57 map many of the elements for consideration when identifying potential trail corridors and alignments. A compilation map, Figure 58, (Resource Overlay Analysis) diagrams significant opportunities and constraints. The mapped elements include:

- Slope
- Ownership
- Existing trails
- User trails
- Utility corridors
- Natural resources
- Osprey nests and buffer
- Northern Goshawk protected activity centers (PAC)
- Stream environment zones

Additional features, such as cultural resources are not mapped. Coordination should occur to understand and identify potential constraints due to cultural resources. Detailed engineering and geotech studies will be conducted in future phases of trail evaluation and development.

IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Developing a shared-use path that connects to the West Shore Trail/Tahoe Trail to the north in Meeks Bay and a future segment of the Tahoe Trail to the south around Emerald Bay can encourage biking to Emerald Bay and Meeks Bay.
- Minimizing at-grade trail crossings reduces conflicts.
- Prioritizing the use of public lands for future alternative trail alignments can increase trail feasibility.
- Maintaining grades below five percent where possible for shared-use paths maximizes the number of people able to easily use the facility.
- Utilizing utility corridors and previous road and trail corridors reduces new disturbance and provides opportunities to underground utilities and co-locate fiber conduit. Under-grounding utilities also decreases risk of wildfire and provides scenic improvements.
- Improving access to technology, such as adding fiber conduit and adding cellular, will improve communications for responding to wildlife and other emergencies.

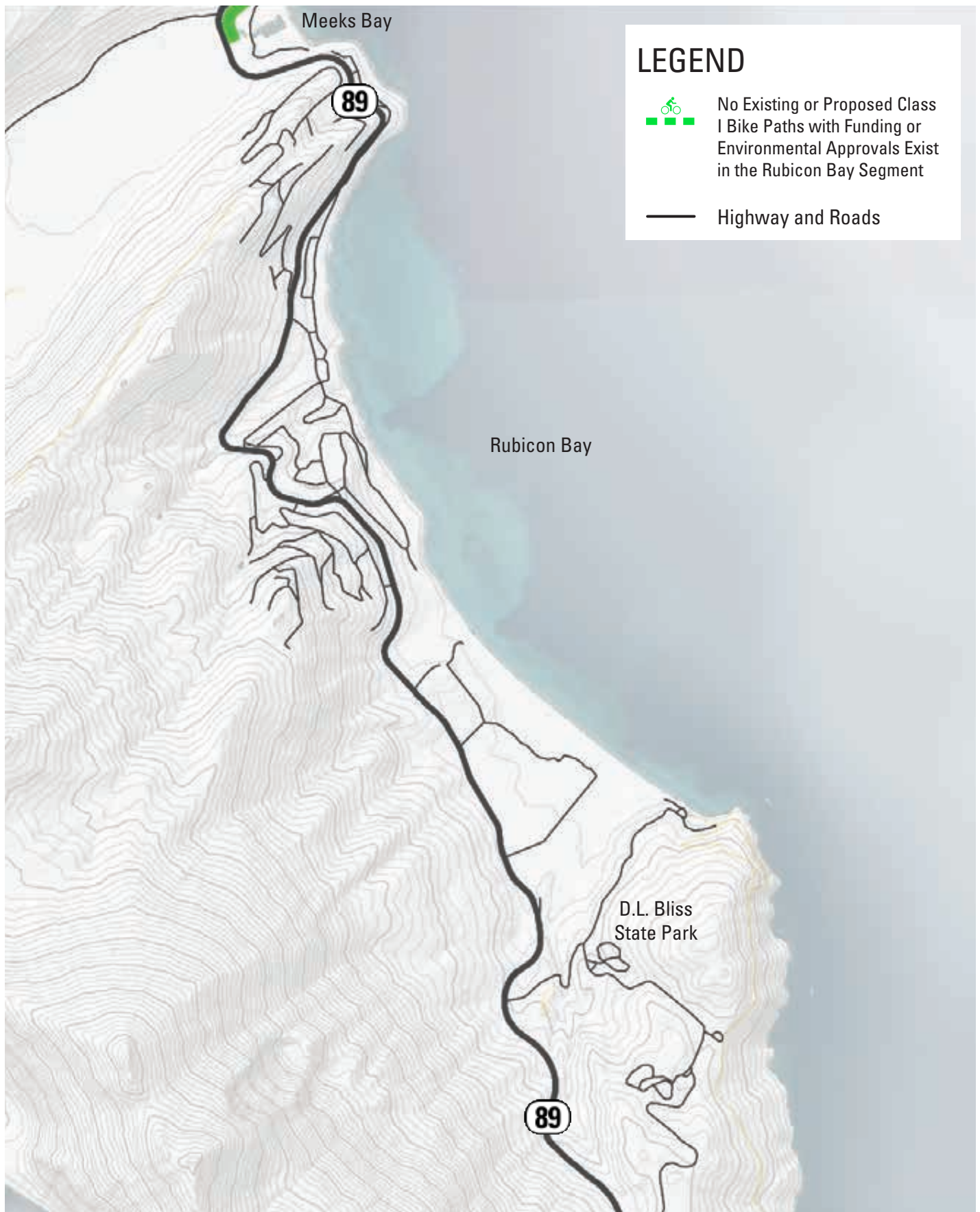


Figure 53: Existing and Funded Shared-Use Paths | Rubicon Bay Segment

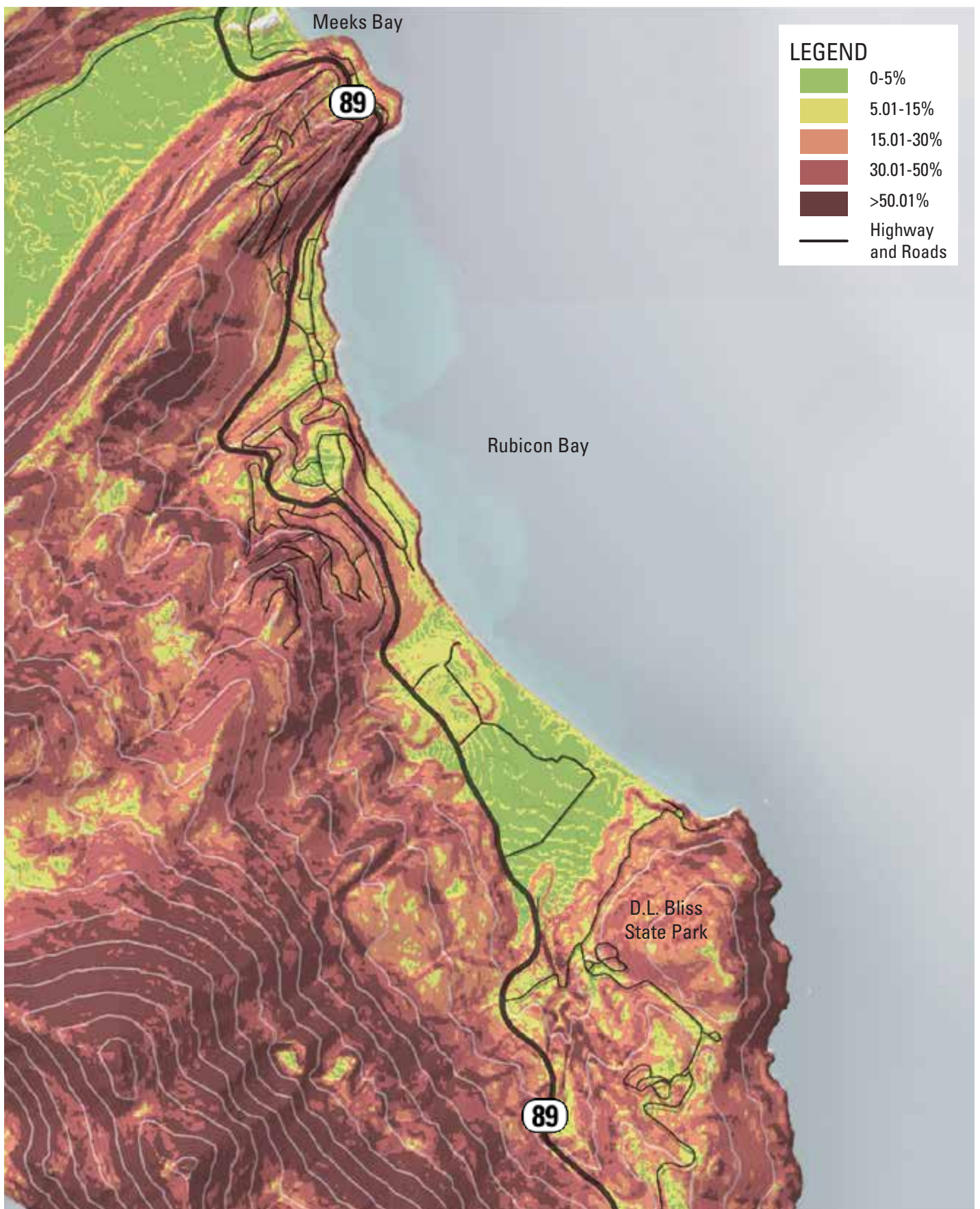


Figure 54: Slope Analysis | Rubicon Bay Segment

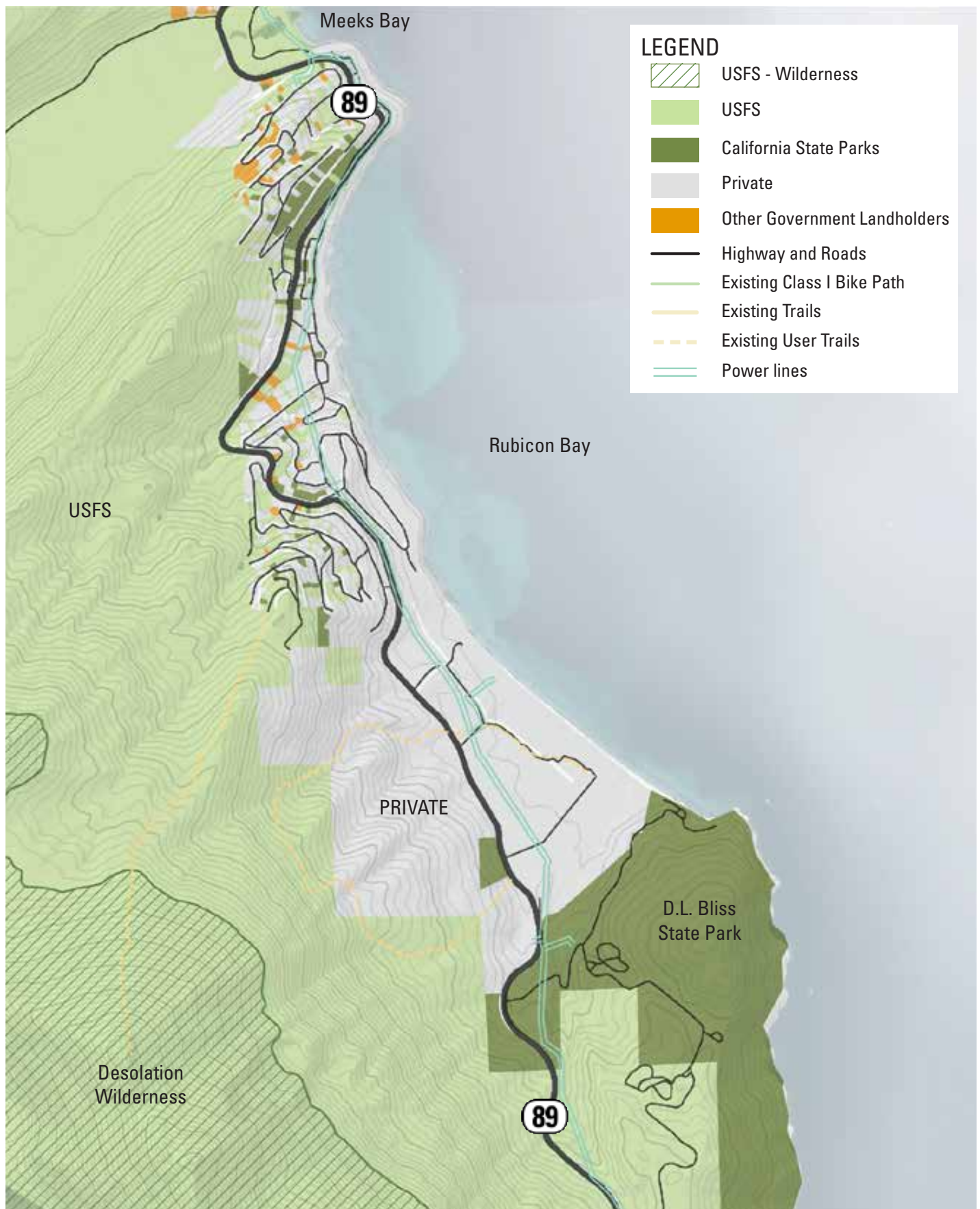


Figure 55: Ownership, User Trails, and Utility Corridors | Rubicon Bay Segment

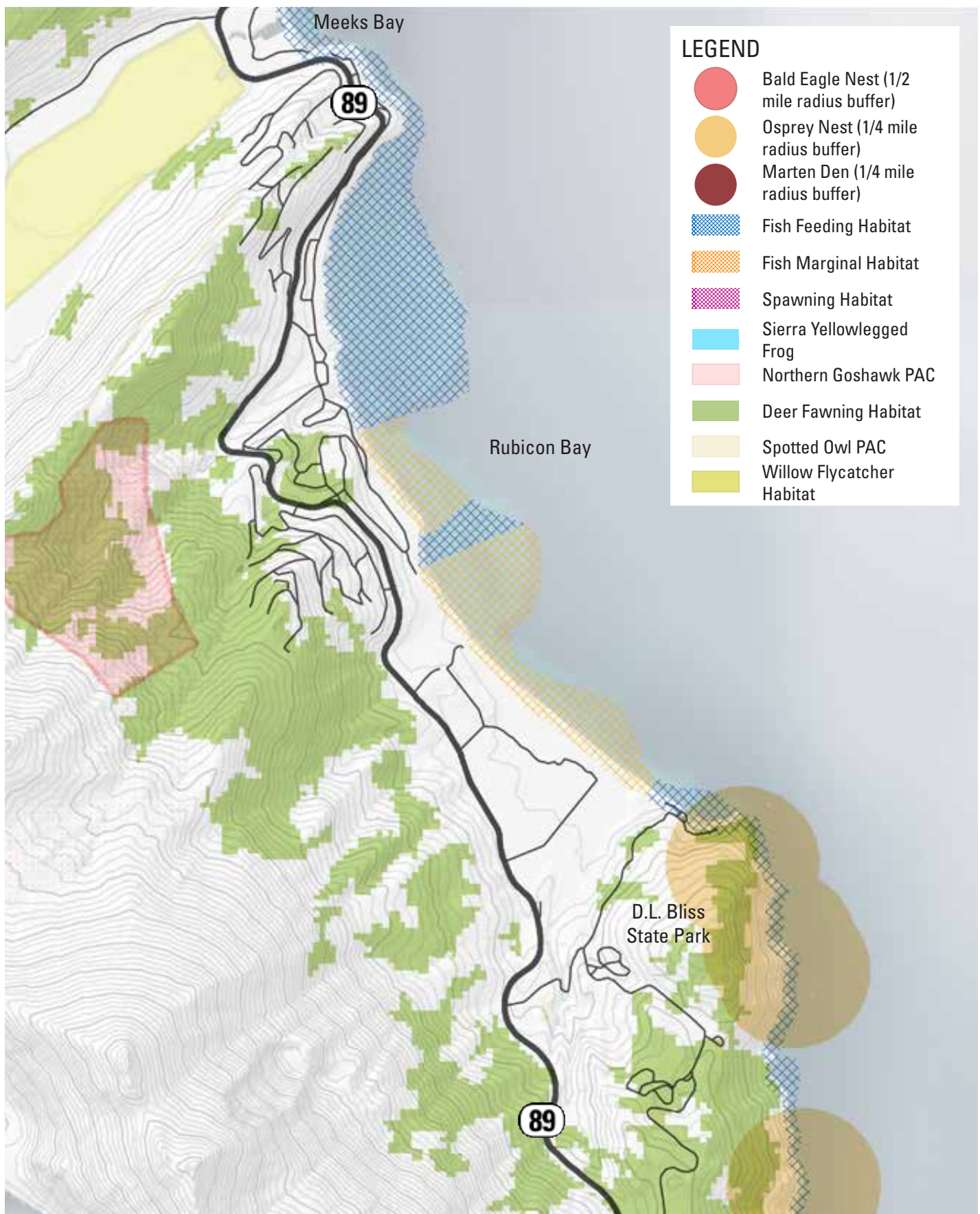


Figure 56: Natural Resources | Rubicon Bay Segment

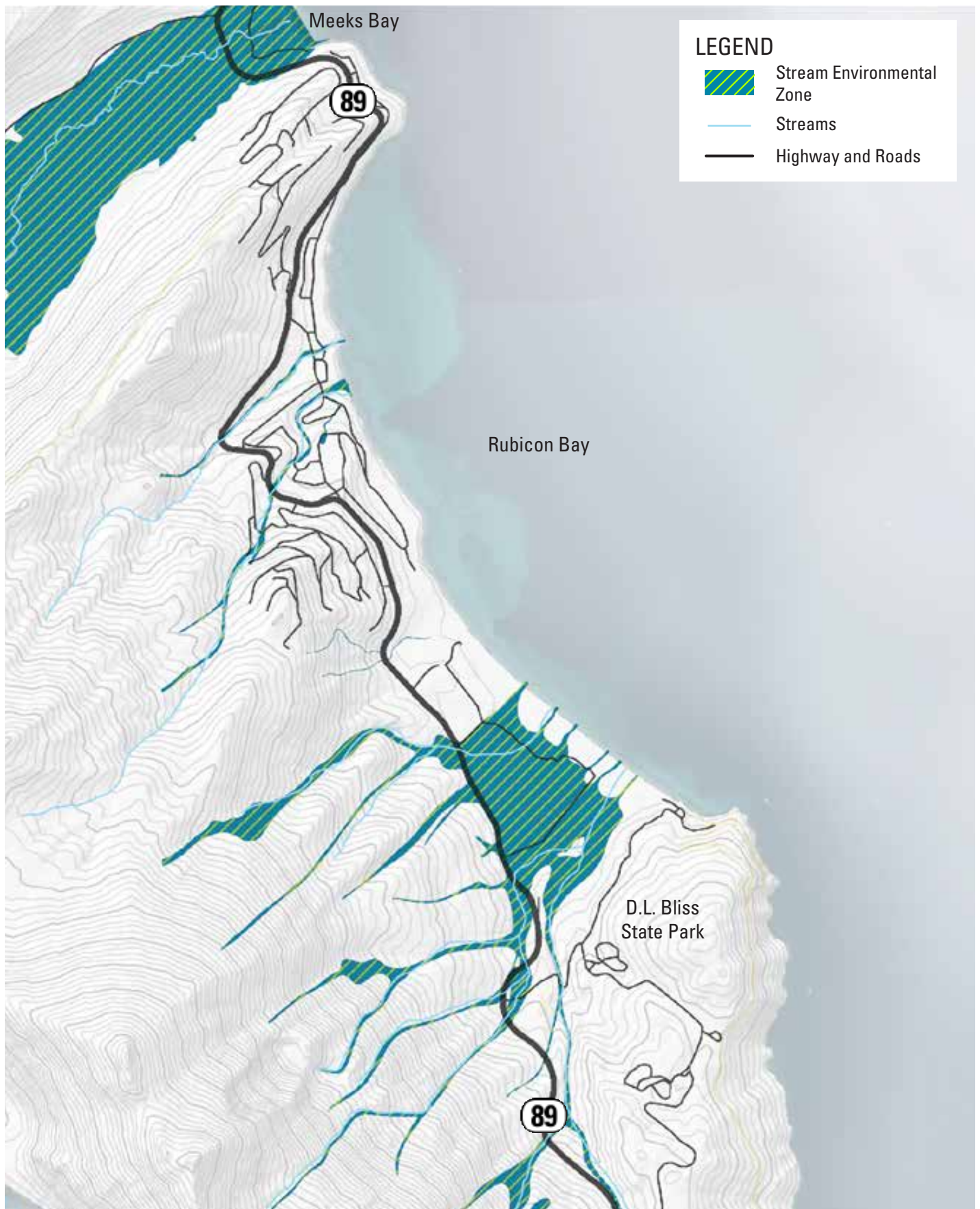


Figure 57: Stream Environment Zones and Hydrology | Rubicon Bay Segment

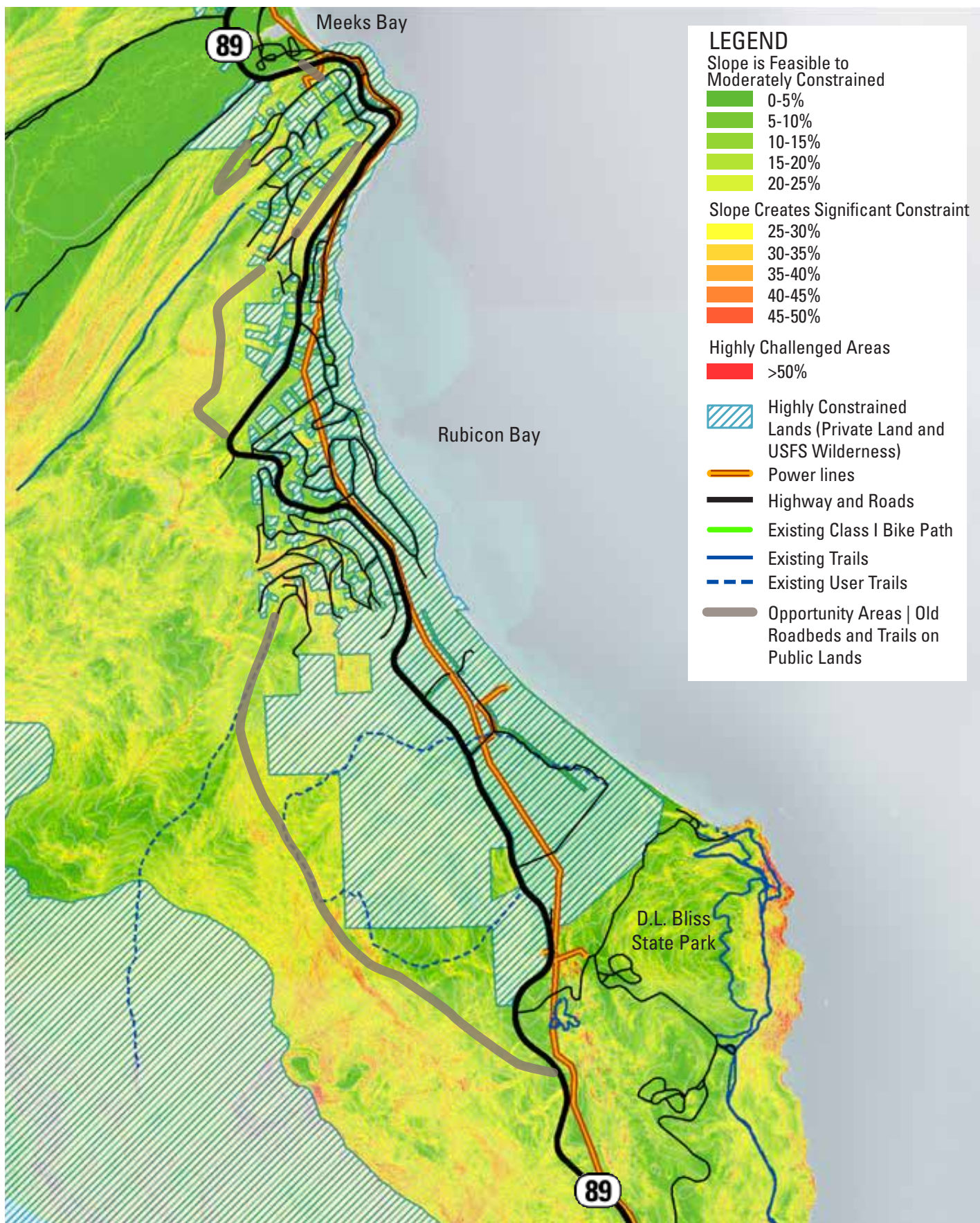


Figure 58: Resource Overlay Analysis | Rubicon Bay Segment

IMPLICATIONS FOR THE TAHOE TRAIL IN THE RUBICON BAY SEGMENT

- Slopes, private lands, a narrow roadway with steep shoulders, and sensitive resources are elements that constrain development of a separated, shared use bike path from Meeks Bay to D.L. Bliss State Park.
- Steep terrain and private properties are the most significant constraints.
- The segment includes USFS lands with old roadbeds and trail corridors that could meet accessibility requirements for Class I bike paths.
- Some of the local neighborhood roads are too narrow and steep to be considered to be part of a trail alignment. However, local roads that have adequate width and appropriate grades could be considered, pending neighborhood outreach.
- The grade separation between Meeks Bay and the roadway elevation provides an ideal layout for an underpass where users would more easily to cross the highway via the underpass instead of at-grade.
- Utility corridors and the highway right-of-way should be explored for potential alignment opportunities.
- Under-grounding electric utilities can reduce wildfire risk. Co-locating utilities with a trail corridor allows for improved maintenance access and leverages funding dollars. Adding fiber conduit will improve communications for responding to wildfire and other emergencies. Opportunities to co-locate and underground fiber broadband should be considered where possible because under-grounding fiber broadband allows communications to remain online.



Old roadbed on USFS lands provides trail opportunity



Scenic views are provided along the USFS old roadbed.



The grade difference from Meeks Bay and SR 89 provides an opportunity for an underpass that would be part of a natural circulation path.

MEEKS BAY SEGMENT



MEEKS BAY SEGMENT

The Meeks Bay Segment includes the highway corridor as it wraps around Meeks Bay from south to north.

Defining Elements

SR 89 curves around Meeks Bay Resort and Campground. Meeks Bay Resort and Campground are on Forest Service lands with residential areas located to the north and south. The Washoe Tribe operates Meeks Bay Resort and California Land Management, a concessionaire, operates the Campground.

During the summer, pedestrians often cross the highway as they walk from their car parked along the highway to the beaches and recreation areas to the west. Because the road bends around the recreation site, pedestrians often have short sight distance to see oncoming traffic. The posted speed limit is 40 miles per hour which can create a conflict with pedestrians and the recreation activity during the busy summer months.

Visitor Activities

LTBMU owns and manages the public lands in the Meeks Bay Segment. The Washoe Tribe operates Meeks Bay Resort Facilities and a concessionaire operates the campground. There is an existing marina, but there are plans for removal of the marina for environmental restoration and site improvements.

Meeks Bay trailhead is located on the west side of SR 89. The dirt parking area provides access to Lake Genevieve and Desolation Wilderness. It is a popular trailhead in the summer and winter for trail and recreation access.

Recreation activities in the summer include the following:

- Visiting the beach and swimming
- Camping
- Biking
- Boating
- Hiking
- Picnicking

KEY ISSUES

Although the Meeks Bay Segment does not have the traffic congestion and high volumes of visitation seen at other recreation sites in the corridor, there is opportunity for improvement. As visitation to Lake Tahoe increases, the pressures currently affecting the Meeks Bay area could increase. Key issues to be addressed include:

- The need to continue the Tahoe Trail and connect it to Rubicon Bay neighborhoods and other recreation destinations to the south.
- Lack of pedestrian crossing facilities to cross SR 89.
- Vehicles traveling at speeds not conducive for pedestrian crossings and volumes during peak season and roadway curves with short sight distance.
- Unmanaged roadside parking and unorganized trailhead parking.
- The need for winter access.

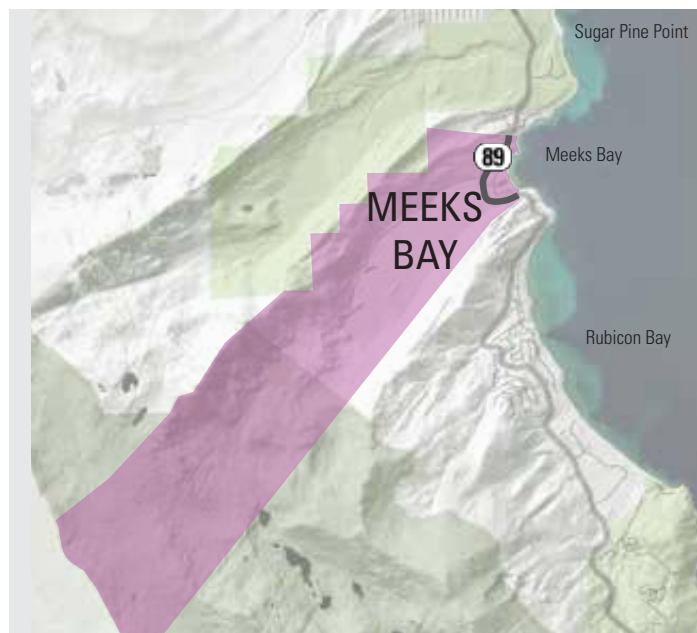


Figure 59: Meeks Bay Segment



Figure 60: Ownership | Meeks Bay Segment

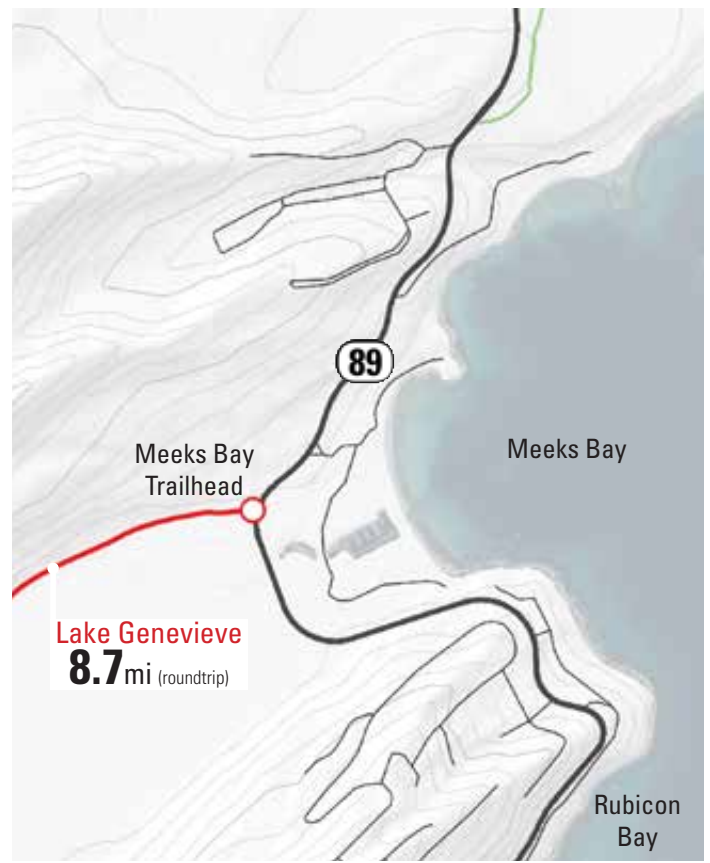


Figure 61: Trail Access | Meeks Bay Segment



Figure 62: Winter Use | Meeks Bay Segment

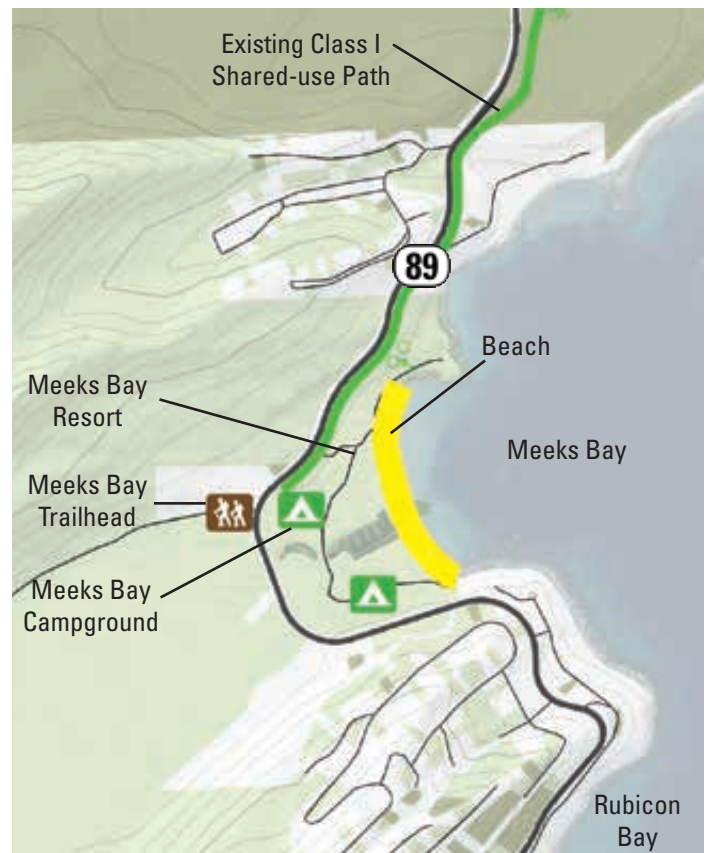


Figure 63: Recreation Areas | Meeks Bay Segment

VISITATION DATA

Meeks Bay's proximity to West Shore residences makes it an attractive destination for visitors and residents in the area. The mix of residents versus visitor recreating at Meeks Bay differs from the overall corridor. Travel mode surveys and postcard survey results indicate full-time or seasonal residents visiting Meeks Bay make up a higher percentage of guests than in other recreation areas. Thirty-four percent of Meeks Bay visitors identified themselves as residents versus the overall corridor average of 19 percent. This is an increase of almost 80 percent.

Similarly, the Meeks Bay segment has a higher percentage of people who stay in a second home and at a campground. This data aligns with the high percentage of seasonally-occupied homes in the adjacent neighborhoods and the central location of the Meeks Bay Campground.

Length of stay was also longer for travel mode survey respondents. This is likely influenced by the number of campers at the site.

Sixty-eight percent of postcard survey respondents arrived to Meeks Bay from the north and indicated that they would return to the north. Twenty-six percent arrived and returned from the south and only 5 percent indicated that they were traveling through. Meeks Bay is more of a recreation destination for neighboring residents and visitors and people traveling from the north.

Primary recreation activities tend to be visiting the beach, taking a day hike, and going on an overnight backpacking trip. The TRPA travel mode surveys intercepted visitors using the campground, whereas it appears that either the 2018 intercept survey and postcard survey did not connect with campers or that the campers identified another activity as their primary recreation activity.

Sources for Tables 17 and 18: Trip Planning and Visitation Statistics for Meeks Bay

1 TRPA Travel Mode Surveys (Average of 2014 and 2018)

2 LSC 2018 Postcard Survey (Pre-paid survey postcards were placed under windshield wipers of vehicles parked along the corridor in late July. Of the 2000 surveys distributed, 138 were returned.)

3 Corridor Intercept Survey (2018)

4 Corridor On-line Survey (2018)

5 USFS Visitor Counts

6 TRPA Travel Mode Survey 2018 Only

IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Continuing to enhance trail connectivity can promote walking and biking to the recreation facilities. The proportion of full-time or seasonal residents visiting the recreation area could walk or bike from their residence or place of stay.
- Developing a shared-use path that connects the West Shore Trail to a future shared-use trail to the south would continue to encourage trail use and connectivity between recreation areas.
- Organizing day use parking would provide erosion control and clarify parking areas. Enhancements should be considered in coordination with the number of people desired on the trails.



Meeks Bay Resort has opportunities for water activities, camping, picnicking, and overnight lodging.

TRIP PLANNING⁶

	Meeks Bay	Overall Corridor Average
A Month or More Before	50%	31%
More than a Week, But Less than a Month	17%	11%
In the Last Week	25%	20%
Yesterday	0%	21%
Sometime Today	8%	17%

Table 17: When Survey Respondents Planned Trip to Meeks Bay

VISITATION STATISTICS MEEKS BAY SEGMENT			
	Meeks Bay Segment Information Only	Overall Corridor Comparison 2017 LTCCP	Overall Corridor Average
Resident Versus Visitor			
Full-Time or Seasonal Resident	34% ¹	13%	19% ³
Visitor	66% ¹	87%	81% ³
Visitor Type			
Overnight Visitors	86% ¹	90%	89% ³
Day Visitors	14% ¹	10%	11% ³
Lodging Type			
Vacation Rental	23.7% ¹		21.2% ³
Second Home	15.8% ¹		7.4% ³
Friend's Residence	10.5% ¹		8.5% ³
Timeshare	0% ¹		8.3% ³
Motel/Hotel	18.4% ¹		36.9% ³
Campground	31.6% ¹		17.6% ³
Length of Stay at Recreation Site	9.8 hours ¹		3.6 hours ³ / 4.7 hours ²
Number of People in Trip Party	3.6 ²		3.6 people ³ / 3.7 people ²
Travel Modes (2018 Travel Mode Surveys)			
Car/Truck/Van	86% ⁶		86% ³
Motorcycle/Moped	0% ⁶		2% ³
Transit	0% ⁶		1% ³
Ferry or Boat	0% ⁶		2% ³
Private Shuttle	3% ⁶		
Scooter	3% ⁶		
Bicycle	2% ⁶		5% ³
Walk	8% ⁶		5% ³
Trip Pattern			
Arrive from and Return to South	26% ²		52% ³
Arrive from and Return to North	68% ²		39% ³
Traveling Through	5% ²		9% ³
Primary Recreation Activity			
Visit a Beach	44% ² / 83% ³	82 ⁴	25% ² / 40% ³
Day Hike	39% ² / 17% ³	87 ⁴	46% ² / 31% ³
Quick Stop to See the View	0% ² / 0% ³	36 ⁴	5% ² / 5% ³
Drive Around the Lake	0% ² / 0% ³	38 ⁴	4% ² / 1% ³
Take a Bike Ride	0% ² / 0% ³	51 ⁴	1% ² / 2% ³
Overnight Backpack Trip	17% ² / 0% ³	34 ⁴	9% ² / 5% ³
Camping	0% ² / 0% ³	0 ⁴	N/A / 15% ³
Other	0% ² / 0% ³	N/A	4% ² / 4% ³
Average Number of Annual Visitors at Meeks Bay ⁵			
2018 Meeks Bay Day Use Season Total	27,684	Estimated 1.8 Million in 2014 for Entire Corridor	
2015-2017 Meeks Bay Campground Annual Average Number of People	13,133		

Table 18: Visitation Statistics for the Meeks Bay Segment

TRAFFIC DELAY

Traffic delay is not a typical issue in the Meeks Bay segment. Delays can be associated with roadside parking and queuing into Meeks Bay Resort, but it is not reported to be significant at this time.

PARKING DATA

Circulation and parking within Meeks Bay Resort could be enhanced. Vehicles currently park in unpaved areas within the recreation area. A conceptual plan has been previously developed illustrating potential circulation improvements. The plan has not gone through environmental review. Therefore, it should only be considered as informational.

LSC conducted a parking study of the shoulder parking and trailhead parking during the summer of 2018. The areas south of Meeks Bay Trailhead consistently had the most cars parked along the highway. Parking accumulation peaked at 1:00 PM and remained consistent through the afternoon until 3:30 PM.

The Meeks Bay Trailhead filled by 9:00 AM and remained full throughout the day. The trailhead is unpaved and is a popular access point to Desolation Wilderness.

Because Meeks Bay does not see the high volume of visitors typical for Emerald Bay and the Pope to Baldwin areas, the challenges associated with shoulder parking are not as acute. As visitation demands increase, the area should be monitored and parking management strategies should be reviewed to address changing conditions.

TRANSIT FACILITIES

There are no active transit stops at Meeks Bay. The LTCCP identifies previous stops being located at the recreation area. Facilities should be located off the highway near the entry of the recreation area. Private lands are located on the southwestern portion of the segment. Reinvestments in now vacant properties could create an opportunity to coordinate with a southbound transit stop.

IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Organizing day use parking would provide erosion control and clarify parking areas.
- Monitoring use will enable land managers to identify if management strategies should change in response to increased use of the recreation facilities.
- Designing transit stops so buses can pull off the highway to load and unload passengers reduces traffic flow impacts.
- Connecting transit to Meeks Bay from North Lake Tahoe would provide for the high percentage of people traveling from the north to the recreation area.
- Improving access to technology, such as adding fiber conduit, will improve communications for responding to wildlife and other emergencies and enhance connectivity for parking management strategies and real-time transit communications.



The highway makes an almost 90 degree bend as it enters Meeks Bay which reduces the sight distance for pedestrians crossing the road.

Source for Tables 19: Parking Data Statistics | Meeks Bay Segment

1 LSC Meeks Bay Parking Study, Summer 2018

PARKING DATA STATISTICS MEEKS BAY SEGMENT										
Number of Existing Off-Highway Parking Spaces Available (228 total)										
Trailhead Parking Spaces		11 (unpaved)								
Meeks Bay Resort Parking Lot Spaces		141								
Meeks Bay Day Use Parking Lot Spaces		76								
Observed Shoulder Parking (Number of Vehicles Parked Saturday, July 21, 2018) ¹										
		Peak Number of Cars Parked along Highway								
North of Trailhead Mountainside		8								
North of Trailhead Lakeside		19								
South of Trailhead Mountainside		32								
South of Trailhead Lakeside		25								
Total On-Highway Parking		84								
Trailhead and Shoulder Parking Accumulation Times (Saturday, July 21, 2018) ¹										
	8:00AM	9:00AM	10:00AM	11:00AM	12:00PM	1:00PM	2:00PM	2:30PM	3:00PM	3:30PM
Total Number of Cars	24	30	35	42	68	85	84	85	85	79
Trailhead	9	11	11	11	10	10	10	10	10	10
Total On-Highway	15	19	24	31	58	75	74	75	75	69
North of Trailhead Mountainside	6	7	8	7	7	7	7	7	8	7
North of Trailhead Lakeside	0	0	0	4	10	17	19	18	19	17
South of Trailhead Mountainside	7	9	10	11	22	26	30	32	29	26
South of Trailhead Lakeside	2	3	6	9	19	25	18	18	19	19

Table 19: Parking Data Statistics for the Meeks Bay Segment

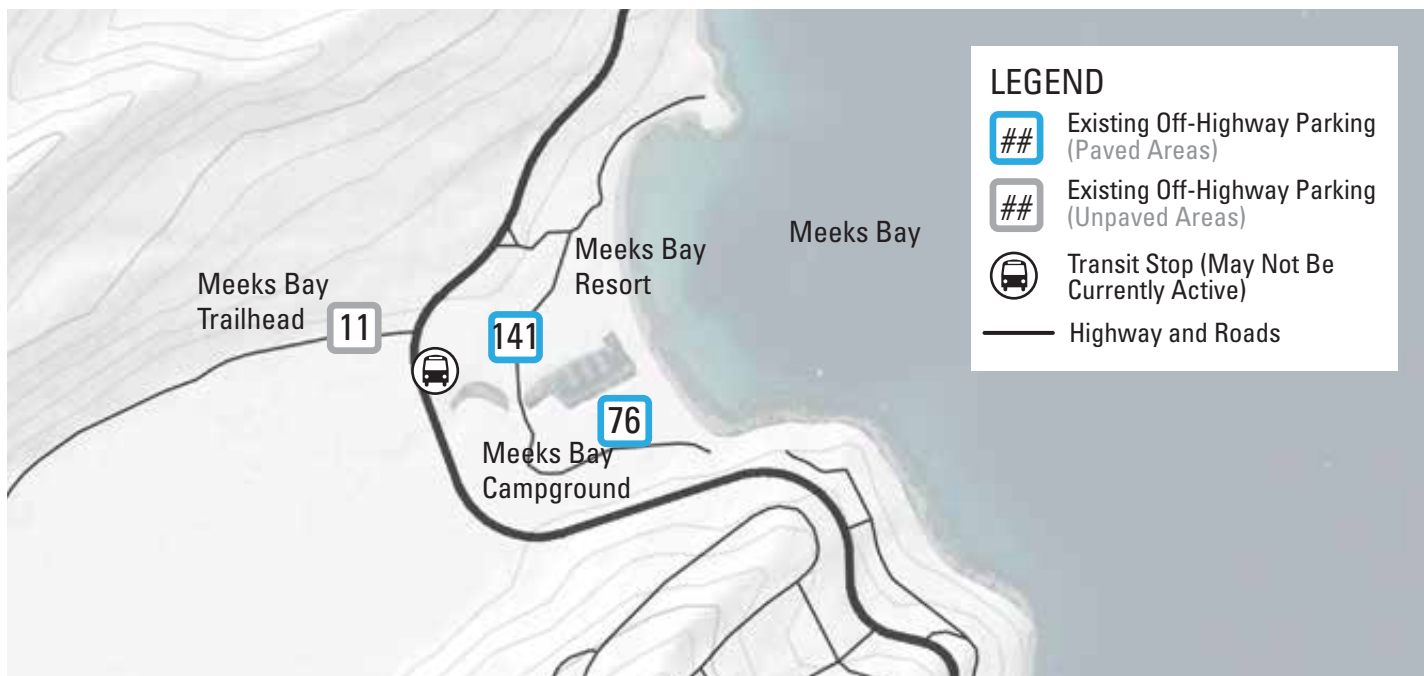


Figure 64: Off-Highway Parking Locations and Numbers and Transit Stops in Meeks Bay

BICYCLE AND PEDESTRIAN FACILITIES

A Class I shared use path runs north from Meeks Bay to Sugar Pine State Park. The pathway is part of the larger West Shore Trail network for North Lake Tahoe. It also serves as a portion of the envisioned bikeway around Lake Tahoe, otherwise known as the Tahoe Trail.

Gaps, Opportunities, and Constraints

The bike path terminates at the northern Meeks Bay Resort entry. Neighborhoods and recreation areas to the south can be connected via the trail network. The trail segment through Meeks Bay will be part of the overall trail to connect to Emerald Bay and promote walking and biking.

Alignment considerations include providing access to recreation areas while minimizing pathway disruptions to the campground. The highway's posted speed limit and road alignment make at-grade crossings undesirable. Therefore, as the path continues to the south, at-grade crossings should be minimized. A bridge replacement project is planned and is an opportunity to provide a grade-separated underpass. Within Meeks Bay recreation area, lands are owned by the USFS. This provides flexibility in routing the future pathway and providing separation from the highway.

IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Developing a shared-use path that connects the West Shore Trail to a future shared-use trail to the south would continue to encourage trail use and connectivity between recreation areas. The path would also provide a place off the roadway for pedestrians to walk.
- Connect trail systems to future mobility hubs and parking areas encourages transit use.
- Minimizing at-grade trail crossings reduces conflicts.
- Prioritizing the use of public lands for future alternative trail alignments can increase trail feasibility.
- Utilizing shared-use path systems to provide visitor access to recreation areas can reduce vehicular use.
- Reducing the speed limit during peak recreation days would enhance pedestrian crossing opportunities.



An unpaved trail through Meeks Bay Resort connects users to the different facilities.

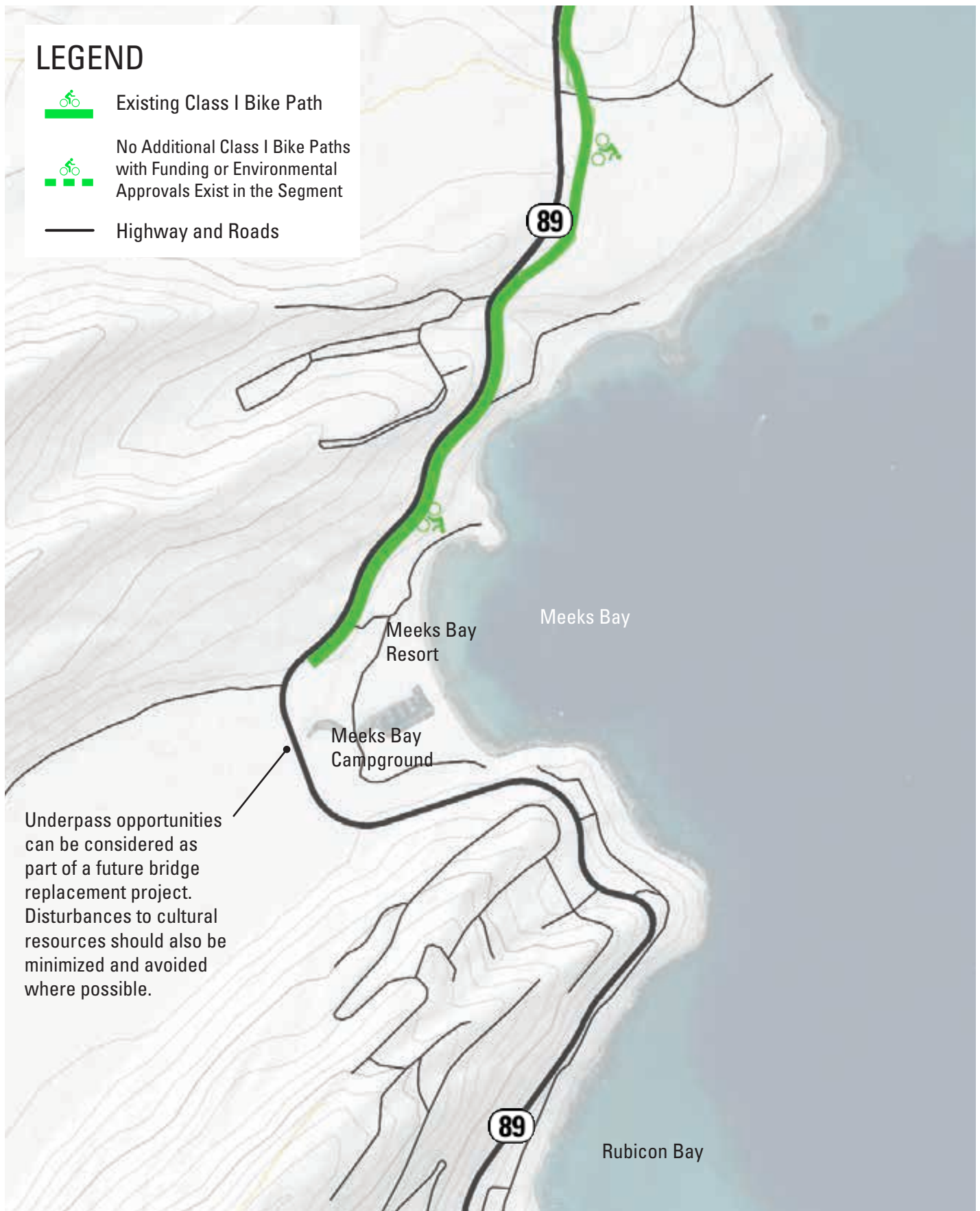


Figure 65: Existing and Funded Shared-Use Path Facilities | Meeks Bay Segment



SUGAR PINE POINT SEGMENT

SUGAR PINE POINT SEGMENT

The Sugar Pine Point Segment extends from the northern edge of Meeks Bay to the Placer County/El Dorado County line in Tahoma and includes Sugar Pine Point State Park.

Defining Elements

This segment is the northern gateway to the recreation corridor to the south. The highway is bordered by both residential and public lands. Small neighborhoods are located north of Meeks Bay. Tahoma, a census designated place, includes residential and small commercial areas in both El Dorado County and Placer County. The West Shore Trail (or Tahoe Trail) extends from the Placer County line south to Meeks Bay. Within this segment, the shared-use path mostly parallels the roadway.

Visitor Activities

California State Parks is the primary public land manager within the segment. Additional public lands are owned and managed by the USFS and CTC. In this northern segment of the corridor, the highway runs between private lands and also provides access to public recreation areas. Sugar Pine Point State Park does not see the visitor volumes associated with Emerald Bay, but visitation continues to increase.

Tahoma and Homewood areas create a northern gateway to the corridor and offer a small number of food and beverage opportunities. These are the last commercial areas before a traveler heads south through the recreation corridor. Most of the other food and beverage offerings in the corridor, such as those at Meeks Bay Resort and Camp Richardson Resort, are provided as part of concessionaire facilities on public lands.

Sugar Pine Point State Park provides opportunities to hike, swim, fish, camp, and explore a nature center and historic site. In the winter, cross-country skiing is available. Key recreation sites in the segment include:

- Sugar Pine Point State Park
- Sugar Pine Point Campground
- Beach areas in Sugar Pine Point State Park
- Hellman-Ehrman Estate picnic area, beach, and pier

Additional recreation sites, such as Homewood Resort, are located north of the corridor in Placer County.

KEY ISSUES

The Sugar Pine Point Segment includes a mix of both residential development and public recreation areas, including Sugar Pine Point State Park. Although the segment does not have the traffic congestion and high volumes of visitation seen at other recreation sites in the corridor, there is opportunity for improvement. As visitation to Lake Tahoe increases, the pressures currently affecting the Sugar Pine Point State Park could increase. Key issues to be addressed include:

- Roadside parking in Tahoma, which is north of the study area, creates congestion for the corridor to the north.
- Visitors to the State Park often park along the highway and cross the highway to avoid an entry fee.



Figure 66: Sugar Pine Point Segment



Figure 67: Ownership | Sugar Pine Point Segment

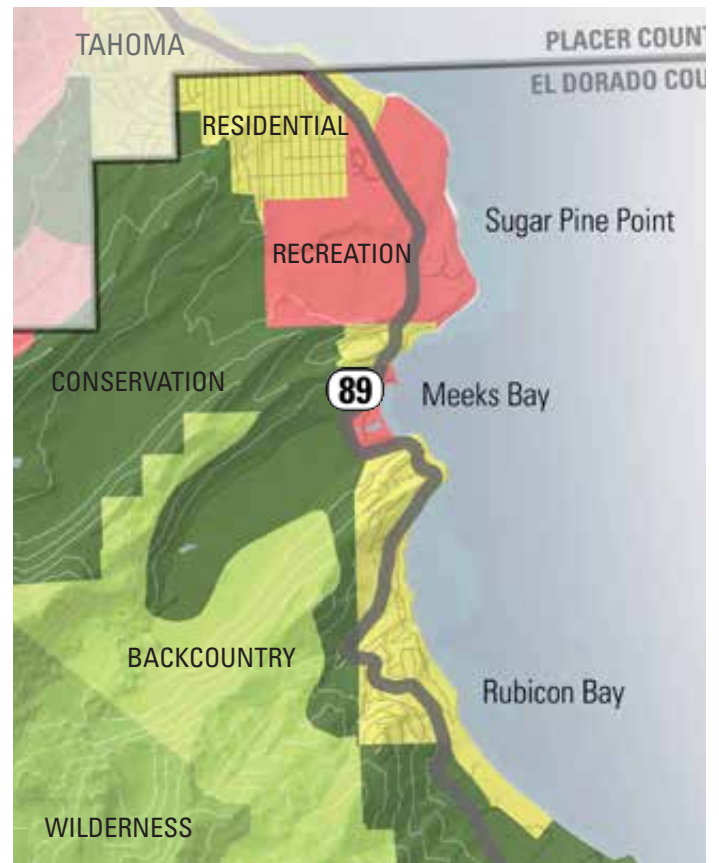


Figure 68: Land Use | Sugar Pine Point Segment



Figure 69: Trail Access | Sugar Pine Point Segment



Figure 70: Recreation Areas | Sugar Pine Point Segment

VISITATION DATA

Sugar Pine Point segment does not experience the same levels of high visitor use and transportation issues as other corridor segments. Therefore, site specific surveys and data collection efforts did not occur for the segment.

State Parks' annual attendance counts for Sugar Pine Point State Park recorded 162,520 visitors during the 2015/2016 season. Additional visitation may have occurred from people parking along the roadway and walking in or people walking or biking in from adjacent neighborhoods and lodging. The 2015/2016 saw an 31 percent increase in attendance over the previous year. This aligns with the local trend of increased summer recreation activity and visitation.

IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Monitoring use will enable land managers to identify if management strategies should change in response to increased use of the recreation facilities.
- Evaluating opportunities for using some of the State Park parking as a mobility hub could be considered as part of a transit program. There is currently underutilized parking.



Hellman-Erhman Mansion, a historic building called Pine Lodge, establishes a strong cultural sense of place for the state park.



Trails and short hikes offer a popular activity in the state park.



The pier at Sugar Pine Point State Park provides access to Lake Tahoe.

VISITATION STATISTICS | SUGAR PINE POINT SEGMENT

Number of 2016 Visitors

Sugar Pine Point State Park 2016 Annual Attendance

162,520¹

Estimated 1.8 Million in 2014 for Entire Corridor

Table 20: Visitation Statistics for the Sugar Pine Point Segment

Source:

1 California State Park Sierra District Visitation Numbers

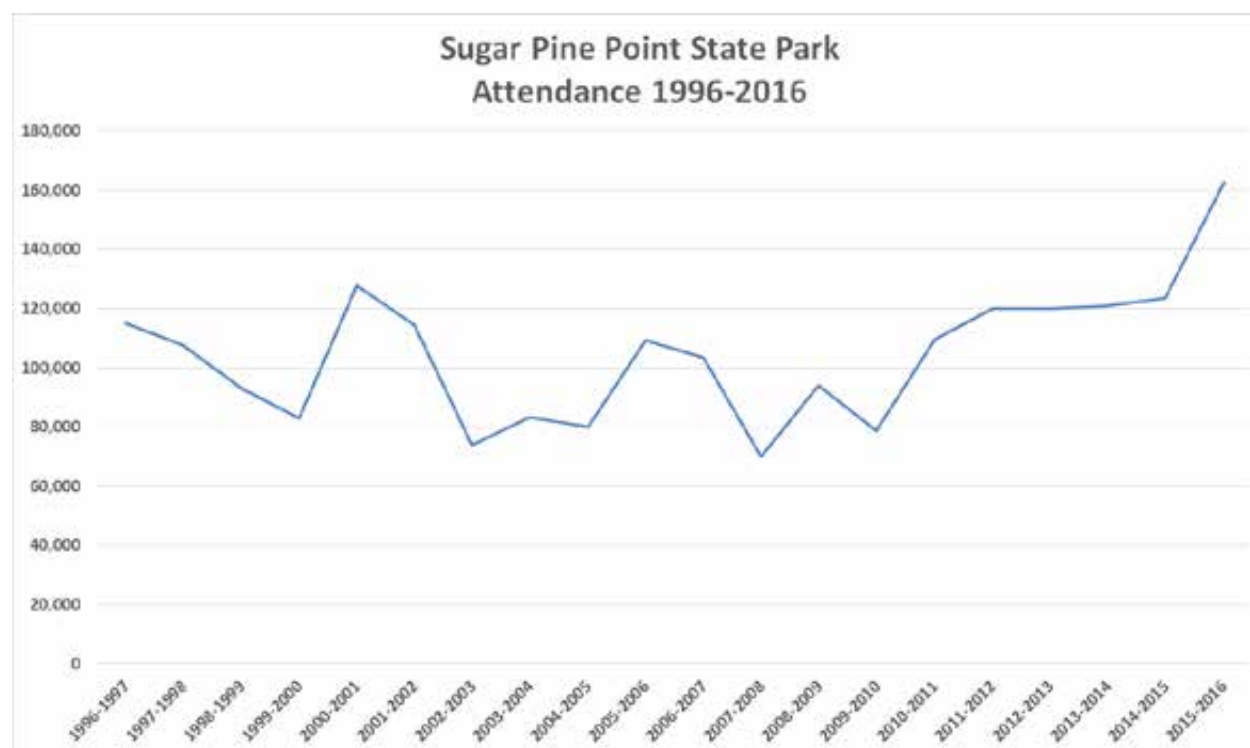


Figure 71: Sugar Pine Point State Park Annual Attendance

TRAFFIC DELAY

Traffic delay is not a typical issue in the Sugar Pine Point segment. Delays can be associated with construction projects, but are not typically associated with recreation access.

PARKING

Shoulder parking is not a typical issue in the Sugar Pine Point segment. State Park guests may park along the highway in order to not pay entrance fees, but it has not become a priority management concern. State Park staff note that off-highway parking areas do not typically fill, even on peak weekends in the summer. Sugar Pine Point State Park visitation is increasing annually, but not to the volumes experienced in the other recreation areas of the corridor.

TRANSIT FACILITIES

The Tahoe Truckee Area Regional Transit (TART) has a Mainline transit stop location at Sugar Pine Point State Park. It is the southernmost transit stop listed as part of its 2018 route.

IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Monitoring use will enable land managers to identify if management strategies should change in response to increased use of the recreation facilities.
- Evaluating opportunities for using some of the State Park parking as a mobility hub could be considered as part of a transit program. There is currently underutilized parking.
- Coordinating with the SR 89/28 Corridor Management Plan will help ensure strategies applied in Tahoma don't impact Sugar Pine Point State Park.

PARKING DATA STATISTICS | SUGAR PINE POINT SEGMENT

Number of Existing Off-Highway Parking Spaces Available (185 total)

Sugar Pine Point State Park Parking Lot Spaces (West of SR 89)	20
Sugar Pine Point State Park Parking Lot Spaces (East of SR 89)	34

Table 21: Parking Data Statistics for the Sugar Pine Point Segment



Figure 72: 2018 Transit and Parking | Sugar Pine Point Segment

BICYCLE AND PEDESTRIAN FACILITIES

In 2018, the West Shore bike trail system was extended from Sugar Pine Point State Park to Meeks Bay Resort. The trail system connects north to Tahoe City and the resort area of Squaw Valley in Olympic Valley, California. The trail will connect with the planned Resort Triangle trail system that will link North Lake Tahoe communities to Olympic Valley, Truckee, and Northstar. As part of a backbone system of trails, the path alignment through Sugar Pine Point State Park and south to Meeks Bay will encourage more people to walk or bike to their destination.

Although trail use numbers in Sugar Pine Point State Park are lower than those for the Pope to Baldwin Bike Path in the southern section of the corridor, monthly and daily counts show it is well used by North Shore residents and visitors. As future trail connections are made, user numbers are anticipated to increase and the trail could become a recreation activity in and of itself.

IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Monitoring use of the Tahoe Trail segment will help land managers identify a need for new trailhead parking or for Sugar Pine Point Park to provide trailhead parking for the Tahoe Trail.



A newly constructed Class I shared-use path connects Sugar Pine Point State Park to Meeks Bay. The use of off-highway bike facilities shows the need and desire for shared-use path connectivity between recreation areas.

SHARED-USE PATH STATISTICS HOMEWOOD ¹							
Tahoe Trail Shared-use Path User 2018 Monthly Counts							
	May 2018	June 2018	July 2018	August 2018		September 2018	
Sugar Pine Point Shared-use Path	659	1,267	2,074	1,911		N/A	
Tahoe Trail Shared-use Path User 2018 Typical Daily Counts							
	Sun	Mon	Tue	Wed	Thur	Fri	Sat
Sugar Pine Point Shared-use Path	70	53	48	49	55	49	71

Table 22: Shared-Use Path Statistics at Sugar Pine Point State Park

Source:

1 2018 TRPA Monitoring Data



Figure 73: Existing and Funded Shared-Use Path Facilities | Sugar Pine Point Segment

A hiker with a large backpack sits on a rocky outcrop overlooking a vast blue lake and forested mountains. The hiker is wearing a yellow long-sleeved shirt, dark shorts, and a grey cap. The backpack is large and blue with a red roll-up bag attached. The lake is deep blue with several small islands and a few boats. The surrounding mountains are covered in dense green forests. The sky is clear and blue.

SUMMARY AND NEXT STEPS

SUMMARY

As described in the 2017 Linking Tahoe: Corridor Connection Plan, congestion and parking issues through Camp Richardson and Emerald Bay are the most significant transportation issues in the SR 89 Corridor. The limited parking, lack of consistent transit service, roadway design, and lack of technology infrastructure create congestion, degrade visitor experience, and impact the environment and lake clarity. A cohesive and consistent set of strategies are needed to address the issues.

In addition to the findings of the Corridor Connection Plan, key takeaways from the review and collection of transportation and visitor data include the following, organized by segment:

Pope to Baldwin Segment

Key Issues

- Congestion is associated with beach access, pedestrian movement, and motorists searching for roadside parking after off-highway beach parking fills.

Key Implications for Management Strategies

- Establishing a no parking zone while providing access through off-highway parking lots and mobility hubs could provide clarity and consistency in parking strategies.
- Relocating roadside parking to off-highway locations and creating a no-shoulder parking zone can reduce vehicles searching for parking and reduce the number of pedestrians crossing at Jameson Beach Road.
- Using parking management strategies, including reservations and congestion-based pricing, would help manage visitor demands and create capacity by encouraging parking turnover.
- Improving wayfinding and vehicular circulation by linking off-highway parking areas and reducing the number of intersections with SR 89 would improve utilization of existing parking area and manage congestion.
- Reconfiguring land uses, improving intersection function, and relocating roadside parking at the Jameson Beach Road/SR 89 intersection could reduce delays associated with pedestrian crossings.
- Considering opportunities for temporary off-highway parking locations to accommodate special event parking would manage peak congestion.

- Addressing the lack of technology access and providing fiber communications infrastructure would facilitate real-time parking management strategies and transit connectivity.
- Managing congestion is necessary to make transit a desirable option for visitors.
- Completing trail segments to beach destinations and connecting trail systems to future mobility hubs and parking areas could reduce vehicular use. This includes shared-use paths along Jameson Beach Road and Baldwin Beach Road.
- Formalizing the trail corridor and connection from the Gardner Mountain neighborhood to Camp Richardson Resort with an unpaved, but improved trail can provide erosion control and increase multi-modal access.

Emerald Bay Segment

Key Issues

- Congestion, roadside parking, and pedestrians walking in the roadway or on narrow shoulders due to insufficient off-highway parking to meet visitor demand. Illegal parking creates delays, impedes enforcement, reduces the visitor experience, increases erosion, and impacts stormwater quality projects. Topography, sensitive resources, and scenic impacts constrain the ability to build large amounts of new off-highway parking. Emergency access and year-round access are challenged by winter road closures due to rock slides and avalanches.

Key Implications for Management Strategies

- Establishing a no parking zone while providing access through off-highway parking lots and mobility hubs could provide clarity and consistency in parking strategies and simplify enforcement.
- Relocating roadside parking to off-highway locations and creating a no-shoulder parking zone can reduce vehicles searching for parking and reduce the number of pedestrians walking along the roadway.
- Using parking management strategies, including reservations and congestion-based pricing, would help manage visitor demands, distribute arrival and departure times, and create capacity by encouraging parking turnover.
- Providing infrastructure for improved technology and access to communications is an important component for successful, real-time transit and parking

management programs. For the Emerald Bay Segment, this could include adding broadband access including cellular infrastructure.

- Improved awareness and frequency of transit can increase ridership.
- Designing transit stops so buses can pull off the highway to load and unload passengers reduces traffic flow impacts and addresses accessibility requirements.
- Addressing roadway design issues can enhance transit access. The Short-Range Transit Plan identifies many of these issues and recommendations for improvement, including the need for improved technology, guard rails, constraints created by hair pin turns, and required bus sizes.
- Developing a consistent, easy to understand system and providing docents to answer questions and direct users can improve the visitor experience. The volume of visitors, different land managers, and dispersed parking areas can confuse visitors who are not sure where they can park and for how long. Over 50 percent of visitors plan their visit to Emerald Bay a day, or less than a day, in advance. Visitor and travel information must be easy to find and understand.
- Developing a shared-use path that connects to the Pope-Baldwin Bicycle Trail to the south and the Tahoe Trail/West Shore Trail to the north would encourage biking to Emerald Bay.
- Developing a shared-use path near the highway corridor would provide a place off the roadway for pedestrians to walk in Emerald Bay.
- Addressing roadside parking can eliminate the impacts to stormwater improvements. Addressing road design elements at the viaduct, such as subsidence, can create opportunities to provide wildlife crossings.
- Improving year-round access would improve emergency services and connectivity for commuters and visitors along the West Shore.

Rubicon Bay Segment

Key Issues

- Narrow roadways, difficult terrain, and private lands constrain the opportunities to route the Tahoe Trail (a shared use, off-highway bike path) and provide trail connectivity between recreation destinations to encourage walking and biking to activities. The area also lacks broadband access for enhanced communication for transportation systems.

Key Implications for Management Strategies

- Developing a shared-use path that connects to the West Shore Trail/Tahoe Trail to the north in Meeks Bay and a future segment of the Tahoe Trail to the south around Emerald Bay can encourage biking to Emerald Bay and Meeks Bay.
- Utilizing utility corridors and previous road and trail corridors reduces new disturbance and provides opportunities to underground utilities and co-locate fiber conduit. Under-grounding utilities also decreases risk of wildfire and provides scenic improvements.
- Working with residents and property owners to understand and address transportation needs can enhance planning and implementation strategies.
- Working with residents, property owners, and land managers could help build ownership and support for the Tahoe Trail.
- Improving access to technology, such as adding fiber conduit and/or adding cellular, will improve communications for responding to wildlife and other emergencies.

Meeks Bay Segment

Key Issues

- Transit facilities and continuation of the Tahoe Trail through the recreation area are needed. An extension of the West Shore shared-use path was built in 2018 and connects Sugar Pine Point State Park to Meeks Bay. Completion of the segment illustrates the need for shared-use path connectivity between recreation sites. Travel speeds and short sight distances make at-grade pedestrian crossings less desirable. Shoulder parking and trailhead use could increase as recreation use continues to increase for the Lake Tahoe Region. Winter recreation access needs to be accommodated.

Key Implications for Management Strategies

- Developing a shared-use path that connects the West Shore Trail to a future shared-use trail to the south would continue to encourage trail use and connectivity between recreation areas.
- Reducing the speed limit during peak recreation days would enhance pedestrian crossing opportunities.
- Organizing day use parking would provide erosion control and clarify parking areas. Enhancements should be considered in coordination with the number of people desired on the trails.
- Monitoring use will enable land managers to identify if management strategies should change in response to increased use of the recreation facilities.
- Designing transit stops so buses can pull off the highway to load and unload passengers reduces traffic flow impacts.
- Connecting transit to Meeks Bay from North Lake Tahoe would provide for the high percentage of people traveling from the north to the recreation area.
- Improving access to technology, such as adding fiber conduit, will improve communications for responding to wildlife and other emergencies and enhance connectivity for parking management strategies and real-time transit communications.

Sugar Pine Point Segment

Key Issues

- Roadside parking in Tahoma, which is north of the study area, creates congestion for the corridor to the north. Visitors to the State Park often park along the highway and cross the highway to avoid an entry fee.

Key Implications for Management Strategies

- Monitoring use will enable land managers to identify if management strategies should change in response to increased use of the recreation facilities.
- Monitoring use of the Tahoe Trail segment will help land managers identify a need for new trailhead parking or for Sugar Pine Point Park to provide trailhead parking for the Tahoe Trail.
- Evaluating opportunities for using some of the State Park parking as a mobility hub could be considered as part of a transit program. There is currently underutilized parking.
- Coordinating with the SR 89/28 Corridor Management Plan will help ensure strategies applied in Tahoma don't impact Sugar Pine Point State Park.

RELEVANT THRESHOLDS

In 1982, TRPA adopted nine environmental threshold carrying capacities (thresholds), which set environmental standards for the Lake Tahoe Basin and indirectly define the capacity of the Region to accommodate additional land development.

There are nine threshold areas:

- Air Quality
- Water Quality
- Soil Conservation
- Vegetation
- Fisheries
- Wildlife
- Scenic Resources
- Noise
- Recreation

Moving forward, the SR 89 Corridor Management Plan will establish metrics by which progress can be tracked and success measured. These metrics will align with the TRPA thresholds and be coordinated with elements already being regularly evaluated.

While future projects and programs will consider how they impact or benefit the thresholds, several key thresholds could be used as guiding metrics to assess recommendations. Using TRPA's 2015 Threshold Evaluation Report as a guide, below is a summary of relevant thresholds that can be used to develop benchmarks to evaluate future projects and programs.

Air Quality

Reducing vehicle miles traveled (VMT), managing congestion, and minimizing wildfire risk all benefit improved air quality. In 2015, the threshold report recommended public transit, intersection improvements, and bicycle trail infrastructure improvements as programs and actions to continue improving conditions.

Policies and strategies to support attainment of water quality thresholds that are relevant to the SR 89 Corridor include the following:

- Managing congestion through parking management strategies and providing transit will improve air quality.

- Under-grounding electric utilities and improving emergency access will reduce the risk of wildfire and increase the ability for responders to quickly address wildfires.

Water Quality

Policies and strategies to support attainment of water quality thresholds that are relevant to the SR 89 Corridor include the following:

- Reducing private automobile use through improvements to public transit and alternative transportation modes with the goal of reducing air pollution and the subsequent deposition of nitrogen and fine sediment.
- Ongoing allocation of water quality mitigation funds to support erosion control and stormwater pollution control projects.
- Ensuring road conditions are consistent with the road operations plan and road operations scenarios for reduction of pollutants.

Soil Conservation

Policies and strategies to support attainment of soil conservation thresholds that are relevant to the SR 89 Corridor include the following:

- Utilizing disturbed areas will minimize new disturbance and the addition of impervious materials.

Vegetation Preservation

Policies and strategies to support attainment of vegetation thresholds that are relevant to the SR 89 Corridor include the following:

- Supporting and providing access for forest treatment programs and wetland and meadow conservation.

Fisheries

Policies and strategies to support attainment of fisheries thresholds that are relevant to the SR 89 Corridor include the following:

- Supporting and providing access for improving fish habitat and stream flows. Bridge designs should enhance stream flows and reduce unnatural blockages for fish movement, where appropriate.

Wildlife

Policies and strategies to support attainment of wildlife thresholds that are relevant to the SR 89 Corridor include the following:

- Enhancing the connectivity of wildlife habitat areas and providing improved wildlife crossings, where appropriate.

Scenic Resources

The SR 89 highway is a scenic unit and the shoreline it parallels is a scenic unit. Items that affect scenic quality of roadway travel units include the following:

- Man-made features along the roadway.
- Physical distractions to driving along the roadways.
- Roadway characteristics.
- View of the lake from the roadways.
- General landscape views from the roadways.
- Variety of scenery from the roadways.

Except for Units 7 and 9 around Meeks Bay and Tahoma, respectively, the Scenic Roadway Units within the SR 89 Corridor are in attainment.

The 2015 Threshold Report states that “unauthorized roadway parking is occurring along a number of roadway units and in some cases is extensive. This is causing visual distraction and blocking views to Lake Tahoe and has put a number of roadway units at risk of scores dropping.” Relocating roadside parking and developing parking management strategies can help roadway units move toward attainment.

Items that affect scenic quality of shoreline travel units include the following:

- Man-made features along the shoreline.
- General landscape views within the shoreline unit.
- Variety of scenery within the shoreline unit.

Except for the Rubicon Bay and Meeks Bay Shoreline Unit 9, the Scenic Shoreline Units within the SR 89 Corridor are in attainment. Private piers and residential development along the shoreline are visual disruptions in Unit 9 and are not under the purview of the Corridor Management Plan.

As new projects such as parking areas, mobility hubs, and the Tahoe Trail are developed, consideration should be given to scenic impacts as viewed from both the highway and the shoreline.

Noise

Vehicular travel is one of the predominant noise sources in the basin. Based on available status and trend information, the 2015 Threshold Report stated that existing programs by USFS, TRPA, and CHP are “mostly effective in reducing noise in rural outdoor recreation areas”. Reducing private automobile use and improving public transit and access to bike trails will further reduce noise impacts from personal vehicles.

Recreation

Policies and strategies to support attainment of recreation thresholds that are relevant to the SR 89 Corridor include the following:

- Evaluating recreation user surveys to determine user satisfaction.
- Reviewing public land acquisitions and the development of public access amenities.
- Developing new trails and closing the gap between or addressing conflict areas on existing trails.
 - Increased connectivity of non-motorized trails to recreation sites.
 - Increased transit service to recreation sites.
 - Increased outdoor recreation opportunities within walking distance of tourist accommodation and residential areas.
 - Targeted parking expansions or increased trail or transit connections between off-site parking areas and recreation sites.
 - Information targeted at better distribution of visitors across a wider range of available recreation sites.
- Coordinating with TRPA’s Sustainable Recreation Program and LTBMU’s Forest Plan in regards to capacity and access.
- Developing General Management Plans for State Park Facilities and addressing visitor use management and demands.

NEXT STEPS

The existing conditions data and summary and stakeholder input will be used to guide the development of a set of alternatives. Recommendations will address key issues of each segment while considering the needs of the whole corridor. Review and analysis of the recommendations will be conducted and feedback will be obtained from stakeholders, the Project Development Team, and the general public.

The final set of recommendations is anticipated to include defined projects and grouping of projects and areas of additional study and feasibility analysis. Operational and funding considerations and sources will be discussed along with land manager roles and responsibilities.